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HIGH SCHOOL DEPARTMENT OF STATE EDUCATIONAL ASSOCIATION.

PROCEEDINGS OF FOURTH ANNUAL MEETING, AT HARRISBURG.

THE opening session of the High School Department was held in the Assembly room of the Department of Public Instruction on Monday evening, December 28. In the absence of Prof. Cheesman A. Herrick, principal of the William Penn High School, Philadelphia, the department was called to order at 8 p. m., by Vice President, Wm. L. Smith, of Allegheny, who voiced the regret of the Department at the absence of Prof. Herrick, who is now in Europe, and highly commended his work in the excellent programme arranged for this meeting.

Principal J. P. Breidinger, of Wilkes-Barre, was announced to conduct the Round Table of the evening. He introduced Principal W. S. Steele, of the Harrisburg high school, who spoke as follows upon

SECRET FRATERNITIES IN HIGH SCHOOLS.

I hope that nothing I may say will seem inconsistent with the now practically universal opinion that secret fraternities and sororities in high schools are detrimental to the best interests of the schools because of their undemocratic character, aristocratic and snobbish tendencies, etc., etc. At the same time I desire to be entirely fair to the situation as it now exists in my own school. Nor do I wish to place in any wrong light what I consider a fine body of young people. I criticize the system and not the individual members of it, who are as sincere in their opinions as we are in ours and who have shown at all times an attitude of cordial co-operation in all that the Faculty of the school has attempted to do in remedying whatever troubles have resulted from the existence of the system. In thus attempting to be absolutely fair to the student body I know that I am liable to be accused of trying to stand on both sides of the fence.

I found here four strongly entrenched organizations. At that time—four years ago—I had had, as a high school principal, absolutely no experience with fraternities. Nor at that time had the question been so thoroughly threshed out throughout the country as it has been since. I found them here as an integral part of the school life. It was quite natural for me to adopt what seemed the best way to live with them. And that is really all that I have done. I have established and maintained a workable basis for living with these organizations. There has never been any real friction here. There has never been apparent any interference with discipline—such interference as has been experienced elsewhere. There has been no depreciation in scholarship that can be traced to the existence of the fraternity system. There has been absolutely no ground for attacking the fraternities on account of immoral or improper use of fraternity rooms. Absolutely the only cause for criticism so far as the inside school life is concerned has grown out of class politics and athletic affairs. This, however, was enough to create serious apprehension in my mind—apprehension that the mole hill would become a mountain.

After a fair conference with a committee of students all matters of a political nature were left absolutely to me. As a result of that conference, all candidates for any

office, either class or athletic, or for any team, must first receive my endorsement. This is, of course, no unusual power for a principal to possess. But please note that it is here possessed by consent of and by delegation from the student body and not by impressment upon them. The constitution of the Junior class contains provisions adopted unanimously at my suggestion. These provisions are that there shall be a President and Secretary elected by the class from a list of candidates previously approved by me; five vice-presidents and a treasurer appointed directly by me. All the officers constitute an executive committee which transacts the routine business of the class. All minor committees are appointed by the President after consultation with me. So far as possible the treasurer handles all money belonging to the class and pays out only by check and upon order of president and secretary. Individual members of the class may protest any action of the executive committee by submitting the protest in writing over their signatures to a board of arbitration to be composed of the high school principal and two other members of the faculty, one chosen by the executive committee and the other by the protesting students. The treasurer's books must be audited by me once each term, and he must show vouchers for everything. A judicious use of the appointing power thus operates as a check upon the undue influence of any one faction in the affairs of the class. If the president and secretary come from one faction, the treasurer and a liberal number of vice-presidents assuredly will not. Any officer may be removed by me upon cause shown and by vote of the faculty. One strong cause would be misconduct in school, suspension for a period of three days or more being considered prima facie evidence of unfitness for office. So far, this plan has worked well and I have not had to resort to any of the extreme powers which I possess.

The fall term just closed was the most prosperous of my principalship along the three lines of scholarship, conduct and athletic spirit. We averaged far higher in scholarship, we had far fewer cases of discipline to settle and we had the best athletic spirit that I have ever had anywhere. I would not mention these matters were it not necessary in order to show clearly conditions as they now exist. Therefore, when affairs are moving with such serenity with us, why do I align myself with those who say that fraternities are bad in principle? Chiefly for the following reasons, eliminating all that have not come within the range of my actual observation:

1. I am leaving a bad legacy to my successor. While I have no reason to expect trouble in my time, even if that time should be twenty years, there must inevitably come a day of settlement for somebody and this day would be pretty likely to come shortly after the opening of a new administration, before it could become fully cognizant of the situation and fully adjusted to conditions. I have said many times to the boys, "Five years from now you will certainly be gone, and I may not be here. Neither of us can guarantee our successors."

2. A fraternity or sorority is an increased expense that ought not to be incurred by a high school student—no matter what the parent's circumstances may be. Many parents feel this, but allow their sons or daughters to join against their personal judgment simply because it is difficult to stand out against the pleadings of the child for what it considers its natural companionship.

3. Fraternity hurls young people into social life at a period entirely too young. The chief reason for the existence of a frat is social. A generation ago it would have been considered the height of absurdity for children—for what else are they?—from 15 to 18 years of age to inaugurate and manage for themselves social functions that involve the hiring of cabs and the purchase of expensive flowers, etc.

4. The chief evil with us is not so much the fraternity system and the fraternity function which has been guided to some degree by faculty advice, but the upspringing of numerous "imatators," of all sorts of mushroom clubs that are mere copies of the real thing. These imitators are not high school organizations nor do they claim the high school name. They exist merely for a few days and for a definite social purpose, and we may not even know of their existence except from a brief notice in the press. While these clubs are composed largely of high school students it can be readily seen that we can have no control over them.

5. The strongest reason, perhaps, why school authorities everywhere should unite against the existence of the fraternity system in secondary schools is found in the opportunities that may arise for students of one school to meddle in the affairs of another at a distant point. This was clearly demonstrated on the Pacific Coast. It was clearly demonstrated here when the students of our school attempted to establish a chapter at Steelton against the wishes of Principal Davis, who has been kind enough to say that I rendered him valuable assistance in his successful campaign against the organization. To add a hypothetical case that might become real at any time, Would

it not seem absurd for the president of a fraternity of several chapters, who might be a sophomore in some distant college, to be able to dictate to the undergraduates of a high school, how to manage their affairs? The right man in that place might be helpful I admit—but, out of a dozen such possibilities, the chances are decidely against the right kind of helpfulness as the years go on.

In view of the foregoing you may quite properly ask, "Why did you not demand that the fraternities disband when you apparently had the power to compel them to do so? To that there is a very simple answer to any school man of sense. There are thirty members of our Board of Education. Without their active co-operation, and most certainly against their active opposition, any attempt on the part of a mere principal would be predestined to disastrous failure. In my last annual report I requested that a committee be named to investigate this entire question. This I am assured will be done. Whenever or if ever the board says the word, I shall lay all personal considerations on the table and proceed to the uttermost limits of my power.

The address of Mr. Steele was discussed by Principals Breidinger and Dickson, and Inspector Hertzog. The general opinion was decidedly in opposition to these high school fraternities. Inspector Hertzog inquired whether it would not be advisable to have legislation against them in Pennsylvania.

SPECIAL CLASSES FOR BACKWARD PUPILS

was the next topic in order upon the programme. Prof. G. D. Robb, principal of the Altoona High School, to whom it had been assigned, spoke much as follows:

At the close of the school term of 1908 the principal of the Central Grammar School had a class of pupils which he could not recommend to high school. These pupils were in this school for two years. The question in his mind was what to do with them, whether to have them spend three years here or to recommend that they be sent to high school as a special class. After careful consideration upon the part of the superintendent, and the high school principal, they were permitted to enter the high school. They were allowed to enter the regular course of study, which includes first-year Latin, ancient history, first-year algebra and first-year English, under the care of strong teachers. After four months of experience we find that these pupils are making commendable progress. They are not able to move along very rapidly, but are interested in their work, and by the end of the year some of them will be able to take up second-year work with credit, some may have to take the year over, and some may drop out; but the important thing to remember is that they have had an additional year in school. If they had been required to take work in Central Grammar over again, the likelihood is that none of them would have returned. So far as my experience goes I believe in a special class for backward pupils.

The subject was further discussed by Supt. McGuines, Inspector Hertzog and Principals Breidinger, Dickson, George and Miss Evans. The plan of having a special teacher to assist the regular teacher with backward pupils was generally approved.

PREVENTING LOSS OF FIRST-YEAR PUPILS.

Prof. P. M. Bullard, principal of the Williamsport high school, made answer to the question, "How Shall We Prevent the Large Loss of First-year High School Pupils?" He said,

If we grant the existence of the evil, which this topic suggests, before we can prescribe a remedy, we must first determine its causes. I am, by no means, sure that the evil exists in any such broad sense as the word "large" indicates. On the contrary, I am quite sure that in very many communities the loss of the first-year pupils in the high school is so small that it may be attributed to causes with which the school has very little connection. It is quite possible, however, that investigation would show that the loss in many localities is large. I can do little more in the time allowed me for this discussion than to enumerate the causes and suggest the remedies.

Reasons for leaving school prior to graduation are almost legion but perhaps we may, considering them broadly, reduce the causes to two: poverty and discouragement. With the first of these it would be fruitless, at this time, to concern ourselves. Its causes are too remote, being referable to the very foundations of our social institutions. The existence of this cause, however, shows that the teacher must be increasingly a student of social conditions, for just in proportion to the improvement of these conditions will the cause of education be uplifted. It is with the second of these causes, namely discouragement, that we are chiefly concerned in this discussion. Discouragement is due to a lack of interest, to physical causes, to insufficient preparation, to peculiarities of mental endowment, to overcrowded courses of study, to poor teaching, etc.

Having briefly stated the causes of the

loss of first-year pupils in the high school, let us turn to a consideration of the remedies. Pupils cannot be kept in school by electives. The pupil's choice is made at a time when he has no sufficient knowledge of himself. He is not capable of making the proper selection from any point of view, neither are his parents. He is guided mainly by tradition. At best his choice is merely a guess and cannot often be right. He is not kept in school by special courses, by commercial courses, by manual training courses.

Commercialism and industrialism play an important part in education but only a part. They are not education but only a phase of it. They, however, serve an important purpose and keep in school for a longer time a certain class of pupils who have a natural tendency towards these things. Every good commercial course or manual training course will be, in large measure, academic, otherwise it must fail to educate in any broad sense.

A study of mental growth indicates that there are certain psychic principles of which, perhaps, we have not taken sufficient notice in our choice of subjects and methods of presentation. The mind develops by sections. Just as in chemical change there is a certain time when the breaking up of the old compounds and the union of the elements to form the new take place with greatest facility, so in the growth of mind there are certain periods when, from the point of view of culture and training, the mind is capable of great and rapid development. Now if at these periods, the right sort of mental stimuli can be supplied the student will make a very rapid mental advance; if, on the contrary, the right sort of stimuli be not administered growth will be retarded. For example, there is a certain time, quite early in the life of the child, when a modern language should be begun. If begun at this time the language will be acquired with comparative ease, if delayed until the high school period, with comparative difficulty and with marked loss. The time of these periods of greatest growth should be determined by the method of investigation.

The child should be made the starting point in deciding subjects of study and methods of presentation. The mere fact that a subject is important should not determine its place in the curriculum, as in the case of "English Grammar" and "Arithmetic."

The high school must be made independent of the college. All high schools of the first class are college preparatory schools in the sense that their curricula are determined by the entrance requirements of colleges. This slavery of the high school is as incongruous as it would have been in the Middle Ages to make the serf master of the baron. The college is in reality dependent upon the secondary school and will one day fashion its entrance requirements accordingly. Our high school courses must be made for the pupil instead of being made to cater to the college.

There must be less crowding of courses and closer personal supervision. To make the latter possible the teaching force must be greatly increased. Many a boy and many a girl may be saved to the school and so saved to society by the close and sympathetic friendship of a good teacher. It is too much to expect, however, that teachers will be really great, except in rare instances, on salaries that, on the average, ought to stir up the righteous indignation of so great a people.

I should say, then, that children can be kept in the high school by (a) the recognition of periods of mental growth, (b) reference of subjects of study and methods of presentation to these periods, (c) emancipating high schools from the domination of the college, (d) paying closer attention to the individual, (e) improving the teaching force.

I cannot refrain from adding in support of this last point the following from Sartor Resartus: "Alas, so it is everywhere, so will it ever be; till the Hodman is discharged, or reduced to Hodbearing; and an architect is hired, and on all hands fitly encouraged; till communities and individuals discover, not without surprise, that fashioning the souls of a generation by knowledge can rank on a level with blowing their bodies to pieces by gunpowder; that with Generals and Field-marshals for killing, there should be world-honored Dignitaries, and were it possible, true God-ordained Priests, for teaching."

The subject was further discussed by Supt. Lose, Inspector Koch and Profs. Meixel and Robb.

Prof. John W. Moyer, of the Northeast Manual Training High School, of Philadelphia, limited his treatment of Providing for the General Welfare of Pupils to the physical side, and discussed the following phase of the subject

HOW WE MANAGE OUR ATHLETICS.

In 1905 the students and teachers of the "Northeast" organized themselves into a school community for the purpose especially of looking after our out-of-school

activities. Each class elected eighteen of its members to represent its interests in a smaller governing body called the School Senate. This senate is composed of 57 members—54 boys and three men—elected by the boys themselves, and four men appointed by the Principal—61 in all.

The president of the school community is a student, and the auditor of accounts and the treasurer of the community are faculty members. All money received by the school community must go into the treasury, and can be paid out only on properly drawn orders of the president and the secretary.

The senate meets once a month and legislates for the school. Bills concerning out-of-school matters may be approved or vetoed by the president of the Senate: bills concerning general school policy must be approved or vetoed by the Principal of the school. There is no appeal from the Principal's veto. All boys and men in the school thoroughly approve the method of Senate control, and give it their heartiest support.

This is the method of school control: how has it succeeded?

1. The athletics are a decided success. In the composition of the teams, the scholarship requirements give us the very best boys; in the moral and financial support given the teams nothing could be finer or more wholesome; in the success of the boys in all their athletic work, nothing could be more encouraging.

2. The school paper, "The Archive," is well managed, well edited, judiciously advertised, clean and stimulating, and heartily supported by boys and men.

3. The scientific societies: The Forestry Club, the Camera Club, the Natural Science Club, and the Engineers' Club, are on a sounder financial and scholastic footing than ever before. They are more heartily supported by the student body, and they are doing better work.

4. From a financial point of view the success has been very marked. Beginning three years ago with heavy debts incurred by both the athletic association and the school paper, carefully exercised control has paid all indebtedness, paid all expenses to date, given $50 within the last year to buy a cup to foster the athletic spirit in a sister school, contributed $500 to help equip our new athletic field, and the treasury yet shows a clear balance of $726.60.

And out of this has grown a strong spirit of co-operation on the part of boys and men, and a full understanding of what a great school stands for—a thorough preparation for life.

We commend the plan to others.

In reply to a request for information as to the plan of his school for conducting a Forestry Club, Prof. Moyer supplemented his address with the following:

THE NORTHEAST FORESTRY CLUB.

Twelve years ago forestry was a part of the curriculum in our school. Instruction in the science was both theoretical and practical. The class room work was largely concerned with forestry as an economic problem—the effect of destruction of forests on rainfall, water supply, and the public health. In the field we studied the tree as a whole—its leaves, bark, wood, general symmetry, its importance as a shade tree, and in the production of lumber, its traditions, its folk-lore, and other interesting facts about it. In the laboratory, with specially prepared instruments, we studied the wood—its strength, its texture, its elasticity, its resistance to weather, and its uses in manufactures, commerce and the arts.

With the rapid growth of the school forestry was crowded out of the regular course and became wholly an after-school study. But the interest in it has not waned. Rather it has increased, and although its membership is limited to the senior class this year's forestry club numbers eighty-seven members.

We are active in three ways: 1. We meet once a week, on Fridays, all through the school year, either to discuss forestry questions in the class room or to go into the woods to study trees at first hand. 2. We keep abreast of the forestry movement by attending public lectures and making use of all the literature on the subject to be obtained. 3. We celebrate every Arbor Day by planting trees for ourselves and giving others what aid we can to do the same. The work has been so successful that the boys keep up their interest after they leave school. A number of them are now students in forestry schools, expecting to give their lives to the good of the forestry cause.

After remarks by Principals Dickson and Adams upon the subject as above, Prof. A. E. Kraybill, principal of the Johnstown High School, considered the question, "How to Reduce the Amount of Home Study Required of High School Pupils."

HOME STUDY OF HIGH SCHOOL PUPILS.

This subject has been assigned to me with the privilege of treating it affirmatively or negatively. I believe that conditions warrant its treatment from both points of view. Some pupils, I feel, devote too much time to home study. Many, I know, do very little study outside of school hours. Two hours daily would probably be regarded by

most high school teachers as a reasonable amount of time to be devoted to home study. Courses of study should then be arranged with this end in view. If a pupil is required to do an excessive amount of home study in order to do all his work satisfactorily to himself and the teacher his program should be lightened. If an excessive amount of home study is required of many pupils the curriculum should be modified to meet the conditions. This I believe could be done in many schools to the great advantage of the pupil. We could cover less ground and devote more time. Aim at quality rather than quantity. We are too largely influenced by arbitrary college entrance requirements in making our courses of study for high schools. I believe that every good high school should give to every pupil who desires it the college entrance work, but in view of the small percentage who go to college it seems unfair to base our courses so largely as we do on these requirements. This is especially true in our conforming to the minimum of time to be devoted to each subject. In mathematics the colleges specify a year for plane geometry and a year and a half for elementary algebra as the minimum of time. The high schools, forgetting the fact that this is a minimum, and that this minimum has been set largely to meet conditions in purely preparatory schools, immediately adopt it and rush all their pupils over the subjects in the given time. In high schools at least a year and a half should be given to plane geometry and two years to elementary algebra. In Latin, because a few in the class must read six orations of Cicero or six books of Virgil in a year is no reason why all who desire to study Latin must be rushed over this amount of work. Four orations or four books are enough for the average pupil in a year. The amount of home study required of the faithful, conscientious pupil can be reduced by reducing the amount of work covered or by increasing the time to be devoted to it. Adapt the course to the needs of the many and make special provision for the few who want to cover the extra ground.

On the other hand, too many pupils do little or no home study. Work should not be lightened until the teacher is satisfied that the pupil is making an honest effort to do it. The pupil who will not work is a problem which no course of study will remove. His case is in reality a problem of discipline to which no general rule will apply. The most effective remedy that I know is to require from the parent a written statement each week of the time spent in study at home.

In the discussion which followed, Principal Brooks suggested that much time could be saved by teaching pupils how to study. The department then adjourned.

TUESDAY MORNING.

THE exercises were opened with reading and prayer by Rev. Wm. B. Cooke, of the First Presbyterian Church, Steelton.

Supt. Charles S. Foos, of Reading, president of the Pennsylvania State Educational Association, extended a very cordial invitation to the members of the High School Department to attend the general meeting at Bethlehem, June 29 and 30 and July 1.

Deputy Supt. Reed B. Teitrick followed with an announcement of the meeting of the National Educational Association, July 5 to 9, in Denver. Also an announcement of the meeting of the National Department of Superintendence, February 23 and 24, in Chicago. The department of City, Borough and Township Superintendents of Pennsylvania will meet February 2 and 3; that of County Superintendents February 3 and 4, and that of School Directors February 4 and 5. All of these meetings will be held at Harrisburg.

In the absence of Mr. Jonas E. Wagner, principal of the Bellefonte High School, the following paper, prepared by him, was read by Mr. F. E. Shambaugh, principal of the Wiconisco high school.

SPECIAL WORK IN AGRICULTURE IN THE HIGH SCHOOL.

History teaches us that great changes in the life of a nation or of a people are not effected in a short time. Religious liberty was obtained on the continent only after years of struggle and bloodshed, mingled with the downfall of nations. Political freedom came to the colonists after nearly two hundred years of toil and strife; and the colored man was able to throw off the shackles of slavery only after having his cause pleaded for half a century. And so with all great advances.

To-day we are experiencing the forward march of a new era which is to improve our economic condition, and thus establish a more stable foundation for our nation. In 1800, the urban population was four per cent. of the total population; in 1900, this percentage had grown to thirty-three. Realizing the importance, then, of trying to secure a return movement of some of this population and of holding the greater part of the people now residing in the country, there is presented a plan that bids fair to alleviate this tendency to forsake rural life and to seek the supposed more pleasant existence in the city. This is academically known as the organization of a system of agricultural instruction in the public schools.

My strongest reason for believing that this new movement which aims to glorify the benefits and virtues of living closer to the soil, is

bound to succeed, is the fact that the school men of the nation have taken up the issue and from the results already accomplished, seem to be working out a solution. The political world has failed to find a panacea for this economic disturbance; business interests are too self-centered and powerless; and so it has remained for the schoolmaster to seek an adjustment, if such can be found.

That there is a wide-spread interest and activity in the subject of agricultural instruction is evidenced by the fact that scarcely any general educational meeting passes without a presentation of this topic on its program. Committees are organized for a careful study of this new movement; institute work is carrying the gospel to thousands and thousands of people; and state and county superintendents of public instruction are vying with each other to be in the van in reaching their own people.

Assuming, then, that these great forces are proclaiming a new order, and are asking the schools to reflect the spirit of the day, it is the purpose of this paper to show to what extent the high schools can participate in and thereby place a better knowledge of the principles of agriculture before the younger generation of the present age. Conceding the value of such a knowledge, both for the rural citizen and the resident of the city, we may ask, Does the subject warrant a place in our curriculum and if so, to what degree should it be introduced?

In answer to these inquiries it may be said that the study of agriculture in some or all of its forms has many claims for recognition. Among these may be mentioned (1) Its informational and practical value. There is no field that offers more opportunity for gathering information than Nature's own soil spread out for man to investigte its mysteries. If approached with the trained mind, there is scarcely a limit to its revelations. And is not the knowledge gained from such a source of the most practical value? The broad acres stretching out under the noonday sun are the great laboratories where the hand can be applied to act in harmony with the theory expounded in the class-room. (2) It touches many interests. Mathematics appeals to the man who has a mechanical tendency or who wishes to delve in abstract thought. History claims the interest of the student who glorifies the past and who looks to the future as evolving results based on certain causes. Agriculture on the other hand, not only opens up a new world to the farmer or resident of a rural community, but it likewise appeals to the business man who sees new wants presenting themselves; to the scientist who is afforded new fields for investigation and application; to the urban citizen who wishes to establish a home with beautiful surroundings or who wishes to make investments of a rural nature; to the professional man as opening up an attractive field where he can secure that relaxation from the more stirring environment he is placed in. (3) Its value as a culture subject. To say that the study of agriculture has no cultural value is to make an assertion, I believe, that cannot be supported. Culture is to my mind an attitude rather than a condition. The Classics would be of little cultural value to the youth if his instruction were faulty and his mind were not in a proper receptive mood. I believe there is culture in every subject to a greater or less degree. You will, no doubt, recall the statement made by that recognized leader in agricultural research, Dean Bailey, who said that "there was as much culture in beet roots as in Greek roots." (4) Its value for character building and the forming of high ideals. I do not think we can question the statement that the citizenship of our country that is the strongest morally comes from the country. The backbone of this nation has its foundation in the moral stamina of its rural population, and the high ideals set by some of its citizens are only the expression of the free and untrammeled spirit of country life. (5) The opportunity for self-activity and initiative. Here the field of operation is unlimited, and the results obtained are at once convincing and tangible. (6) The number engaged in agricultural pursuits is such that our schools should respond to the demands of the persons affected. The rural communities train about one half of the school population and we must recognize the fact that the majority of these will remain in the country. About fifty-five per cent. of Pennsylvania's population is rural and it is this class that is yearning for better and more congenial educational facilities, and they are entitled to them.

It will thus be seen that the subject of agriculture meets, in general, all the academic requirements for a study to be added to the curriculum. And if material can be found that will not only afford stimuli for mental activity, but will become usable knowledge afterwards, surely such matter is better than if used merely to stimulate the mind to respond in certain ways.

Recognizing, then, the value of the study of agriculture, we come to the point when it is a question as to what extent we shall teach it in the high school. Our thesis, of course, assumes that whatever be the extent of its introduction, the work will be of a special nature, and not undertake in general to supplant some of the well established basic studies in the curriculum. Hence, we shall consider this special work according as it is introduced into city high schools, borough high schools, village or township high schools, and what are known as agricultural high schools which are partly technical in nature.

In taking up each school in turn we shall aim to show whether the work outlined shall be of the nature of a full course, running parallel with the other courses maintained; or a few subjects pursued in connection with the science department of the school; or simply an application of the general work of the institution to agriculture.

The City High School.—At first thought it may seem inconsistent with the purposes of a city high school to attempt to teach such a subject as we have presented. Its environment is of such a nature as to discourage activity along this line; the interests of its faculty are largely in other directions; and its facilities for good work are handicapped by virtue of its location. On more mature consideration, however, is not such a condition needy of attention

at the present time? The trend of our whole educational system has been to educate away from the soil. Country life education has become subservient to the influences of the more active life of the city. The teachers—the text-books even—emphasize the city professions and place additional barriers in the way of a more general balancing of the two systems.

The tendency of the rural boy and girl to seek a city life has become one of our social problems which cries for solution at the present time. And it is for this reason, mainly, that I advocate some plan for a training in the urban school that will emphasize rural life; something to cause the city youth to look toward the country as offering the greatest opportunity for the development of his life work.

The agricultural work to be done, however, in a city high school, should, to my mind, be confined to a distinct course, which you may call an agricultural course, if you will, but care should be taken that it does not become too technical. If the municipality can and does support commercial departments, manual-training courses, domestic science work, which are on a par with the more general courses, it can well extend its influence to the support of a course as indicated above. In connection with the regular language work, mathematics, and history of the other courses, the usual science studies should be replaced largely by more distinctively agricultural work which would include plants and their cultivation (*i. e.*, general and economic botany), physics, chemistry, animals and their management, agronomy, dairying, rural economics, and farm management.

The Borough High Schools.—Under this head we shall include all schools from the distinct city to the village whose population is, let us say, one thousand. The outline of the work for the smaller boroughs, since they are virtually under rural control, will be taken up in its appropriate place. In the borough high schools we have, perhaps, the greatest problem before us for the successful presentation of instruction in agriculture. On the one hand, the environment is fairly congenial for the work since such towns are in close proximity to country life and influence, and in fact, are almost completely governed by rural conditions, as the functions of trade are here subserved mostly by the economic status of the surrounding agricultural districts; on the other hand, the high school of the ordinary borough is not large enough and does not have sufficient financial support to warrant the establishing of a thorough agricultural course and conducting it on a parallel with other courses. But it is not wise to neglect this form of instruction altogether. The plan, then, that seems to suggest itself is what might be called a scheme for adjustment and adaptability rather than one of substitution. The so-called cultural and disciplinary studies must not be neglected by substituting branches of an industrial nature, but by a proper outlining of existing work, instruction of an agriculture nature can be given and an increasing love for country life fostered. In the following scheme I shall aim to outline what special work in agriculture can be done in these schools, most of which will not materially affect the present functions of the school.

Since agricultural work is mostly scientific in nature, we must confine ourselves largely with the sciences. Soil formations, surface drainage, temperature and its effects on plants and animals, erosion and how remedied, atmospheric conditions and their relations to man, being all agricultural subjects should receive special emphasis in physical geography. In botany a great field for application is presented. Here the principles underlying the propagation of plants by seeds, cuttings, budding, and grafting; the study of germination and vitality of seeds; the effects of environment on plant life; fruit culture and vegetable gardening; enemies of plant life and how to handle the same, are some of the important subjects to be emphasized. Types of domestic animals representing best breeds, heredity, habits and life histories of insects, poultry husbandry, and stock judging in zoology. Physics offers an extensive application in such subjects as capillarity and porosity of soils; diffusion and osmosis of gases and liquids; heating, lighting, and ventilating; evaporation as related to tillage. Mechanics as related to farm machinery; pumps, eveners, pulleys, milk-testers, separators, grain and milk, steam and gasolene engines; friction and lubricants; strengths of wire, etc.; and lightning and its effects. In chemistry special emphasis should be placed on the study of the chemistry of foods, soils, fertilizers, and the household water supply. Little advance can be made, however, in this subject as the time usually allotted to its study is too short for any real tangible results to be secured. Matters of home and personal hygiene, comparative physiology, balanced rations, etc., are some phases of general physiology. In composition and rhetoric work, many themes can be written on subjects of a rural trend, or the describing of some experiment on plant life or soil investigation that has been performed by the pupil, thus correlating much work that could not otherwise be done.

As a result of the pupils' work in these schools, we shall be satisfied if they show an intelligent appreciation of the relation that science bears to agriculture; if they become acquainted with recent advances in agricultural development; and of the many agencies at work; and if they begin to manifest an interest in work of this kind.

Township High Schools.—To assume that 90 per cent. of the children of the rural districts are to receive no special training for their future careers, is to acknowledge a situation that reflects very little credit on the intelligence of the State. The foundation of much of her best citizenship is formed in the so-called "little red school house" and here it is that educational means should be provided that would insure the most healthy interest in country life, and create such a pride in its development that little taste would be engendered for city attractions.

The township high school being the capstone to the local school system, I feel that in these institutions lies the future promise in agriculture education in Pennsylvania, and it is the township high schools of this state that I am

speaking about now. They are situated in the midst of an environment that is fairly tingling with possibilities and which almost beckons for the attention that is due it. But before these schools shall open their doors to the new movement, some specific preparation must be had, if efficient work is to be done.

First, the elementary principles of agriculture and of nature study should be introduced into the public schools. Beginning with the making of observations of plants and animals in the pupils' homes, together with very simple exercises in the study of soils, weather conditions, etc., will open the work for the early years. Later a further study of climate, soils, farm-crops, fruits, and marketing should be given which will furnish a good basis for the more extensive studies in agriculture in the high school. Without this foundation, these schools cannot measure up to the demands which future legislation will require of them.

In the second place, the principal of the school must be a graduate of an agricultural college, or have completed a thorough agricultural course in some reputable institution. It seems to me that it would be just as reasonable to choose a farmer to manage the affairs of a great municipality as to elect a city bred man to take charge of our township high schools. We must have a man here whose training and interests are rural; whose sympathies and aspirations are for the general weal of the community, and whose life work will only be complete when he is conscious that he is part and parcel of the general uplift of his fellow man.

In the third place, there should be consolidation of schools wherever possible and expedient; or at least the public schools should be graded in such a manner that they will naturally feed into the rural high school.

With such a foundation the purpose of the country high school is clear and its work sure. The extent to which agriculture shall enter into its instruction will, of course, depend on conditions and to what class the school belongs, *i. e.*, how long a course it maintains. But let it be remembered that whatever work is attempted, and that in our enthusiasm for agricultural subjects, we do not lose sight of the fact that the instruction is not to be narrow or too technical. In a two years' course a specific text-book should be used. Also some general syllabus prepared to meet local conditions and covering some such outline as follows: A continued study of soils, but of a more extensive nature; plant life in its general and economic phases, selection of seed, etc.; farm animals, including their care and feeding; and poultry and dairying. In other branches, application should continually be made to rural life. Arithmetic should yield her quota of problems based on country business; English work can well offer a fruitful field; and of course whatever science instruction is attempted, an endless realm for application can be found.

For schools maintaining a three or four years' course, the outline as given under Agricultural High Schools can well be followed—adapting the curriculum to the more limited equipment and means of the ordinary township institution.

Another phase of agricultural work in these schools will be the organizing of Agricultural Clubs by the boys and girls for the purpose of further study of agriculture under the direction of the principal or in conjunction with and under the leadership of the State College. In Ohio, our sister state, this movement has taken concrete form and has accomplished a wonderful amount of good. The nature of the work can best be ascertained from a bulletin on "Agricultural Clubs in Rural Schools," by Dean Price, in which he outlines the work as of two kinds: "First, experiments in growing crops, such as corn, potatoes, small fruits, vegetables or flowers; second, observation and collecting work, including the identification of common weeds, birds, trees, and insects, the making of school herbarium and collections of common weed seeds. Both lines are important and should be carried on by a club, but the first is indispensable. Each member must have a small plot of ground at his home, if not over half a square rod, to grow some crop for which the member of the Club shall be entirely responsible."

The Agricultural High School.—For the highest development in agricultural education of a secondary nature, we must organize what might be called a rural technical high school. This institution should be the expression of the highest ideals of country life and should yield an influence that would penetrate every home in the territory which supports it.

Ordinarily this school should be established as a county institution and should articulate with the township or village high schools; they in turn looking up to it as a standard in some such way as the high schools in general follow the colleges. Its function is particularly clear in sections which have only a two year course in their township high schools. To support these distinctive agricultural schools it would seem as though the state and county should have the greatest interest and therefore should bear the main burden of maintenance. However, to be most effective in serving their constituencies, enough local support should be required to guarantee efficient work.

These schools, upon organization and afterwards, should make their requirements such that the boys and girls who have completed the common school course could be admitted, even though some might be deficient along certain lines. Experience has taught us that many pupils who were ordinarily classed as poor or mediocre, proved themselves to be good students when placed in an environment that called out their dormant faculties. The many avenues of appeal that lie open to the boy or girl with such surroundings are bound to develop what is best in them.

As to equipment, the more the better of course. A small tract of land for experimentation is indispensable, and a laboratory which should be just as complete as conditions will permit. Arrangements can be made with local stock dealers, farmers, and dairymen for the study of farm animals and dairy problems The main teaching force should be technically trained men and women from agricultural colleges and schools of domestic economy, and whose interests are such that they not only

sympathize with rural advances, but are willing to become identified with all the general social movements in the country.

There are many such schools carrying on the work to-day and many courses outlined. These courses are, from the very nature of the work undertaken, adapted largely to the sections affected. As a general expression, however, of what such a school aims to present, I have chosen the course of study for the Cecil County Agricultural School, Calvert, Maryland, which has outlined the work with great care and under expert advice, and which seems to be typical of what should be attempted in schools of this character.

The following course of study is well adapted for the Cecil County Agricultural School:

First Year.—In language, spelling, grammar and composition; in science, agriculture, plants and soils, and physical geography; in mathematics, arithmetic and algebra; in history, United States and civics; general subjects, free-hand drawing and agricultural practice.

Second Year.—Language, grammar, literature, composition; science, agriculture, farm crops, botany; mathematics, farmland business, arithmetic, algebra; History, English history and civics; general mechanical drawing, agricultural practice.

Third Year.—Language, literature, rhetoric, composition, Latin; science, agriculture, domestic animals, physics; mathematics, farm bookkeeping, plane and solid geometry; history, ancient history; general mechanical drawing, farm mechanics, agricultural practice.

Fourth Year.—Language literature, rhetoric, composition, Latin; science, agriculture, farm management, general and agricultural chemistry; mathematics, geometry, trigonometry and farm surveying; history, medieval and modern, review of United States; general, farm mechanics, field surveying and mapping, agricultural practice.

In conclusion, we will state that it has been our aim in this paper to show, in a brief manner at least, (1) That there is a general demand for instruction in agriculture; (2) that the subject under its various names possesses the necessary qualifications for an additional study in the curriculum; (3) that an important work can be done in the high schools; in fact most of the teaching of a non-collegiate grade must be done here; and (4) that its most general development and application will be found in a distinctive rural environment, and it follows, therefore, that such instruction will be one of the chief functions of the township high school.

Miss Irene E. McDermott, of the department of domestic arts and sciences in the Allegheny high school, read the next paper upon

HOUSEHOLD ECONOMY IN THE HIGH SCHOOL.

We have in this country, kindergarten, primary grade, grammar grade, high school, business college, normal schools, college, university, and post-graduate work, nine steps in educational sequence practically free in most states to those who are able to take advantage of them. After contemplating such opportunities, we are proud to boast that in no other country are there such educational advantages for the masses.

Statistics compel us to admit that four-fifths of those entering the primary grade fail to complete the eighth grade, nine-tenths fail to enter the high school, and 96 per cent. fail to graduate from the high school, leaving only four per cent. of all the entire number who are even eligible for any work higher than the high school. Intensified horticulture produces the perfection in the rose world, the "American Beauty" rose, and it would seem that this is true in our educational system. With the rose the many buds are sacrificed that the strength of the plant may produce this improvement in nature, and with our schools, the masses are lost sight of in perfecting our present educational facilities for the favored few.

Among the masses, which we find represented in this 96 per cent. shut out for want of preparation from the higher educational environment, we find various causes for their failing to take advantage of the necessary preparation. A careful inquiry reveals at least three common retarding influences at work. We could classify these as follows, (1) in the failure of the present curriculum in the public schools to hold and interest pupils in the higher grammar grades. (2) The general unrest manifesting itself in the normal girl and boy when they are in these classes, which makes abstract studies very distasteful when the same offer no opportunity for physical activity. (3) The necessity for facing the question of self-support.

Living in a world formed and maintained by the survival of the fittest, the most important question confronting each human being is the source of one's income. We must all find some means of support, for the world demands a constant service from those who would live and grow. We must offer trained or untrained service, and be rewarded accordingly.

A visit to any of our large manufacturing plants reveals the fact that there is a dearth of trained men and an over-plus of untrained men in all sections of our great country. A further investigation proves to us that this great over-plus of unskilled labor comes from the 96 per cent., who for one of the reasons cited, or some other cause, left school at an early age; also proving beyond a doubt that our great educational advantages are for the fortunate classes rather than for the masses—so that the present facilities, ample as they appear to be to a casual observer, are lacking in an almost criminal degree to serve the masses.

There is a statement in the old Swedish catechism which runs thus; "Activity produces health and wealth, withholds from many a sin, strengthens against many a temptation, and gives consolation and peace of mind in the evil days." When we study the history of Scandinavia and note her sterile soil and cold climate, we may well understand that her people had to develop physical endurance and depend upon their own prowess. We can well

understand how the actual physical requirements became stepping stones to the culture which came at a later period. A close observation of the history of these people teaches us that their best industrial development was made for home use rather than for a commercial purpose. That this natural development was an important factor making each individual a contributor to the well-being of the family.

The old world history made by the Orientals, Greeks, Romans and Teutonic people furnishes a foundation for most political and economic conditions. With an environment and conditions approaching the ideal, we can take this rich heritage, and awaken to the fact that the most important product of any country is the people it produces. Basing a theory on this fact, we are ready at last to rank Home-making among the learned professions. Granting this, the most vital problem confronting us to-day is to find some available training, affording our young women an opportunity of becoming trained before assuming control of a home.

In the prose-poetry of the Bible, we are told that the price of wisdom is above rubies. Webster defines wisdom as being "knowledge plus the power of making use of it." In the past have we not been too intent in understanding this to read minus rather than with the plus sign?

A Chinese teacher is obliged to undergo frequent examinations not to demonstrate that he is keeping abreast with the times, but to furnish proof that he has not forgotten any of the knowledge, which his sponge-like brain was obliged to absorb, before he became a teacher. It would seem that some of our educational systems necessitated this same pressing of knowledge into the minds of our pupils on this same basis, and did not afford a materialization of this knowledge into wisdom. It is no wonder that the Bible ranks it as a scarce commodity. There, we are told that it is not easily found. The sea said "It is not found in me," and the whole created world joins in the chorus, making a like denial. Some of our schools and text-books might make a like admission. It would be well were we to have taken advantage of a child's definition for "sins of omission," which he said were "Sins we ought to have committed and didn't.

The three qualities needed by every woman who would become an intelligent force in her home are persistence, adaptability and accuracy. In the old-fashioned home belonging to a past age, good technical training was available, developing these three qualities. Here, a girl was trained in life rather than for life. Cooking, home nursing, home management, sewing in all its many branches, and like pursuits, were in constant operation. To-day, owing to changed economic conditions existing, the average girl and woman handles the finished product as it comes into the home from the shop or factory.

If a successful manufacturer would have his son equipped and able to succeed him in carrying on his business to a still greater development, the boy is trained and educated in the process, not from the top down, but in a reverse order. So should a like opportunity be afforded to the daughters of our land. As the manufacturer becomes versed in the primitive methods which were employed before changed conditions made new ones better suited for the times, that he might understand the development of his special industry, so should our young women be able to understand the evolution of primitive home industries, as well as those practiced and used in her day and generation. These are the life of those which have become mere crystallized relics of a living age. We all recall the story of the old warrior who was enabled to renew his strength every time he touched Mother Earth. We also remember that the only possible way which his enemies could find to destroy him was to toss him up into the air, and while he was so far from the earth destroy him. It is dangerous for a people to get too far away from early traditions. Improvements are blessings, but a machine-made world would have poor value when compared with a created, growing world.

The majority of young women whom we are educating in our high schools will be called upon to render service in their own homes; not as hired servants, but as daughters, wives and mothers. These young women must from some source secure a knowledge, (which must become a working commodity), of ventilation, heating, cooking, sewing, and caring for the inmates of their own homes. Also to clothe their families, and furnish their homes from both the economic and artistic standpoint. Then, and then only may we well class them among those whose households will "rise up and call them blessed," and whose husbands and sons will "sit among the honored ones at the gates of the city."

These are they who will eventually dictate to our manufacturers as to what they shall make, and to our merchants as to what they shall buy, following the law of supply and demand. The true happiness of the future homes are within their hands, and the prosperity and well-being of the nation are guided by their wisdom and good judgment.

It would be an insult to the intelligence represented here to-day to confine even this short paper on the practical side of this work, with no mention of its educational value. Aside from its practical value, which we must all at once admit, it has a still higher value in developing greater mentality.

Too much of our past school work has developed a one-power brain. The knowledge has perhaps been willingly received, but ended by becoming a passive quality. This was no fault of teacher or pupil. Our high schools have afforded no ready medium for its taking a positive or active force. We live only in a physical sense from the food which is assimilated by our physical bodies. It is also true that book knowledge becomes wisdom only after it seeks and finds expression, and becomes intelligently united, adopted and assimilated with the knowledge which has already undergone a similar process in the mind. When the inner life thus becomes enriched it seeks for a material expression, and it is this materialization which improves the outer conditions. "The Kingdom of Heaven is within us" as the germ of future life is within the

mustard seed, and it only requires a call into life to serve our day and generation.

If our system of education is to stop at receptivity and reflection, or with the mere acquisition of knowledge for its own sake, the coordination between the sensor and motor systems remains undeveloped, and the work is but half done. For a perfect harmony and effective development of the vital power, often latent, the receptive and executive sections of the brain must be brought into action. All real, lasting civilization and culture were thus produced. Given a stout pair of hands the savage may begin his career towards true education in becoming a tool-using animal. Ignoring this primitive educational logic, we may educate and render a race weak in reducing and diminishing the tendncy towards executive power. In most of our higher schools the history of education is an important study. Would that we might advance one step beyond this and study prehistoric education—prove to our entire satisfaction that constructive work in sequence produced for the worker a source of wisdom far higher, even as a cultural value, than a mere memorizing of facts regarding some individual's work and development! Knowledge for its own sake is as void of real value as a body without life. Of old all education was seriously affected by priestcraft. It was true with the Egyptians, and while the Greeks peered almost fearlessly behind the veil of the temple when endeavored to temper the light of truth into, at least, twilight, the Romans went to the other extreme, and were controlled by signs and omens. Even after the true Light had lighted upon us, the mediating prieshood would not permit a direct administration, and palpableness was fostered by ecclesiasticism and feudalism.

Then was born a system of education which has come down to us to this day impelling many to speak with whispered awe and veneration of the value of the so-called "classical course." It is valuable only for the uses made from it, and when this use is not possible, it remains mere knowledge with no possibility of its ever becoming wisdom. Why can we not remember that when the babes of Rome lisped in Latin, a strong and primitive race came down, causing the so-called Fall of Rome? Why can we not remember that this great civilization was only saved because the great Charlemagne had found true wisdom.

Once upon a time a wise man wrote, "He who rears a child without having him learn a trade, brings him up to be the associate of thieves." This is surely true when we turn untrained women out to barter and exchange their money, in the world's markets, for that which is not bread. If the child cries when she discovers her broken doll to be stuffed with sawdust, the grown child is surely in a worse plight when she discovers that grief, sickness and even death may follow as a result of her ignorance. Briefly recapitulating; would not a practical course in home economics in our high schools provide an application of text-book knowledge, and bring it into individual wisdom, were our girls able to demonstrate and prove to their entire satisfaction, solutions for working problems like these; Why are light colors used so commonly (in tropical countries) in the clothing of the people? Why are two light weight garments more efficacious in keeping one warmer than a heavy garment of equal weight? Why do we sear the surface of meats which are to be roasted or broiled, and soak (using cold water) meats which are used for making soups, sauces, etc.? Why do we use such combinations in our food as "pork and apple sauce," or for different reasons bread and butter? Why is it necessary to cook our mixtures where baking powder (or soda and cream of tartar) are employed for leavening purposes immediately, while in the case of yeast we allow it time to become "light" before placing it in the oven? Why is it necessary for the ice to melt before we can successfully freeze ice cream? Why are we able to settle coffee by pouring cold water into the pot, after the coffee has been prepared? Why are we able to clear soup stock by using the white of an uncooked egg, or small pieces of uncooked meat?

These and scores of like questions prove most conclusively that a practical study of this work will furnish a focus point for text-book science.

A few years ago a meeting such as we are having this morning would not have been possible. To-day our most progressive teachers are searching not only for the "Holy Grail" which is found by memorizing prose and poetry, but a holier grail which will make people realize that they are a part and parcel of a divine Creator; that we were brought into life to work out our own salvation; that we can learn the source of wisdom only by work, and that if we would truly live, we must learn.

SPECIAL WORK IN THE GENERAL HIGH SCHOOL.

In the discussion that followed the papers read, Profs. W. S. Hertzog and C. D. Koch, inspectors of high schools, spoke at some length the former much as follows:

Secretary Wilson's last annual report shows that the value of the agricultural products of the United States more than doubled since 1890 and has attained the unthinkable sum of $7,778,000,000. The farmer has produced enough wealth in the last year to give every man, woman and child in the country, $100.

President Roosevelt has embodied the widespread interest in rural affairs in the appointment of a Commission to investigate rural life and conditions on the farm. "Back to the farm" is the modern slogan and the schools are expected to have an important part in the new movement. If I can safely forecast one of the recommendations of this Commission, it will be, that the schools in rural communities devote more time to Agriculture. Already seven states have undertaken this work.

The high schools have established courses in Science, and it is most sensible to teach the Botany of the plants of economic value, or of those that are dangerous, to teach the Zoology of the farm animals and the destructive pests, and to teach the Chemistry and Physics of soils.

Agriculture as a school study has come to stay. The great body of knowledge has become organized and all that is now required

is a trained teacher. It has been proposed in our state to require all teachers to pass an examination in this subject after 1910, but would not this lead to a lot of poor teaching, if all teachers thus certificated should teach the subject? Should a compulsory course in Agriculture be included in our Normal Schools?

I am convinced that Agricuture should not be required of all teachers nor be taught to all pupils, but the present situation in our state is very unsatisfactory. The state made arrangements for expert instruction in Agriculture last summer at Mt. Gretna and Ebensburg, but the students were very few. Public sentiment has not yet demanded the proper teaching of this subject in the schools. Merely reading an elementary text on the subject is a delusion that will work in some places for a short time.

Successful work in Agriculture is being accomplished in various ways in the several states. In Georgia each Congressional district maintains a boarding high school. In Maryland, county agricultural high schools have been opened. In our own state, local ambition and enterprise determine whether an agricultural course shall be properly taught in the high schools now organized. In the great agricultural county of Lancaster, many high schools have but a seven months term, because the children are said to be a necessity on the farm in the fall and spring. A successful agricultural high school is needed there to show that the efficiency of those boys and girls could be wonderfully improved by proper instruction. Then the parents will learn that they cannot afford to keep their children from such opportunities.

In the published proceedings of the N. E. A. for 1908 there is an account, under the head of Industrial Work in Rural Schools, of good work in agriculture in the high school at Waterford, Erie County. Wherever such work has been done successfully, you will find a trained and capable teacher back of it. Whenever a supply of such teachers, from whatever source, is available, and wherever our local public sentiment will support it, there is a great future for work in agriculture in the rural high schools of Pennsylvania.

Prof. C. D. Koch said that he agreed almost entirely with the speakers in all that has been said in favor of special work in agriculture, manual training, commercial studies and domestic science in the general high school, adding.

Perhaps I can emphasize what seems to me to be fundamental in discussing this question. I shall speak more particularly as to the time for this special work. Manual training should no doubt be a part of the regular school work through the elementary grades and the first two years in the high school. It might be well to require all pupils to do some work in manual training. To say that pupils should do special work before the sixteenth year with the view of taking up the different trades should not be taken too seriously. During the first year in the high school and even before there is marked rapid growth in stature, increase in size of muscles and joints. This is certainly not the time to expect pupils to decide their futures and for them to selcet vocations. They need to respond to a great variety of stimuli that a broad general training will result. "Education in the concrete is the adaptation to and the appreciation of a many-sided environment."

The report of the Massachusetts Commission on Industrial Education on this point is very significant. It brings out very clearly that boys and girls are of little account to industry until the age of sixteen, and that those children who enter some vocation earlier than this seldom advance beyond the unskilled class and as men and women they are deficient; that from fourteen to sixteen the child is of productive power only for large processes of manufacture or errand work.

The consular report of 1898 on Education in Germany shows that the general education in the common schools, completed at about fourteen years, was insufficient to the ends aimed at in such a system. To meet this defect compulsory continuation schools were established. These require boys employed in manufactories to be in attendance a certain number of hours each week for the purpose of getting a broader general education with some work along the line of the special trade.

Two papers, one by Prof. C. B. Connelly, of Pittsburg, on Manual Training, and the other by Prof. C. A. Althouse, of Philadelphia, on Commercial Studies, were not received up to the hour of closing the forms for the press, and are therefore not found in this report.

Vice-President Smith announced the following committees:

Resolutions.—Prof. Jno. W. Meyer, Philadelphia, chairman, Prof. Jno. Bower, McKeesport, and Principals T. L. Brooks, Carlisle, Jno. S. Hosterman, Montrose, and W. C. Graham, Wilkinsburg.

Auditing Committee.—Principals J. F. Adams, Millersburg, chairman, J. B. Geisinger, Bethlehem, and G. A. Dickson, New Castle.

Nominations.—Principals Geo. D. Robb, Altoona, chairman, J. P. Breidinger, Wilkesbarre, P. M. Bullard, Williamsport, W. S. Steele, Harrisburg, and A. E. Kraybill, Johnstown.

TUESDAY AFTERNOON.

THE Department convened at two o'clock in the caucus room of the House of Representatives. The first topic upon the program of the afternoon was "The Training of High School Teachers: A Plea for Colleges of Education." The subject was presented in a paper by Dr. A. Duncan Yocum, professor of pedagogy in the University of Pennsylvania, as follows:

TRAINING OF HIGH SCHOOL TEACHERS: A PLEA FOR COLLEGES OF EDUCATION.

At every stage in the training of teachers, whether for elementary schools, secondary schools or colleges, five more or less distinct factors should be present, though in varying degree; academic knowledge, general culture, special method, professional culture, and edu-

cational research. Academic knowledge, so far as it is necessary to the teacher, involves mastery of the immediate subject-matter of instruction, that is, familiarity with the details actually taught both in relation to the branches of which they form a part and to the various phases of the educational aim to whose realization they may contribute. General culture, a many-sided interest in what interests others, relates an otherwise narrow academic knowledge to all that is not directly connected with the teacher's everyday work or special field of learning. Special method of instruction, as distinct from the method of thought or investigation peculiar to a particular field of knowledge, ensures the skill necessary to develop in the minds of a particular class of learners, in the highest degree possible through the particular subject-matter imparted, activities useful for the various phases of the educational aim. Sometimes, though not always, it includes the method peculiar to the subject-matter. Professional knowledge, liberalizing special method much as general culture develops a liberal academic knowledge, embraces all subject-matter necessary to make special method intelligent, independent and sympathetic. As distinguished from general culture it brings many-sided knowledge directly to bear upon the teacher's everyday work or special field of learning, and creates a many-sided interest in the school by relating to it all that can throw light upon its problems.

Educational research, as distinct from the investigations of psychology and other contributary sciences, determines through analysis and experimentation the conditions under which the general principles, perhaps suggested by contributary sciences, apply to the teaching of the details of every branch of knowledge in accordance with the educational aim at each stage of the educational process. Familiarity with its results should be included in the study of special method. But personal contact with research itself is necessary not so much to prepare the way for the intelligent application of rules seen in the making, as to accustom teachers to the continual readjustment and adaptation of educational means made necessary by the progress of scientific discovery and changing social conditions.

These five factors, closely interrelated and mutually dependent, are especially essential in the training of teachers for service in the school where subjective characteristics and idiosyncrasies, at their point of highest resistance, are too often brought into unnecessary and fatal conflict with the specialized subject-matter and the inflexible method peculiar to a sovereign branch of learning. To the high school teacher, academic knowledge means knowledge not of special branches alone, but of those details of special branches which should be taught to high school children. General culture becomes indispensable to him because the mass of high school pupils must continue to depend upon him and him alone for general culture so far as it is given them through formal education. He, more than the elementary school teacher, needs special method of teaching to overcome the dominance of the method peculiar to his specialty. Dealing as he does with active adolescent minds, his pupils will be more or less conscious of any lack of the independence, intelligence and sympathy which only professional knowledge can give. While if ever a teacher needed the spirit of educational research with the accompanying power of adaptation and readjustment, it is the high school teacher, bound fast by the college to his specialty, bravely and sometimes defiantly facing the war-dance of educational reform.

Need for a College of Education.—The reduction of each of these factors to what should be characteristic of the training of high school teachers constitutes one of the most effective arguments possible for the creation by the State of an institution which shall have such training as one of its peculiar functions.

From the standpoint of academic knowledge and special method it must be a normal school, but a normal school with a curriculum and organization different from those necessary to the training of the rank and file of elementary school teachers. For the sake of culture, it must be a college, but a college in which the liberal arts are taught both from a cultural and a profesional viewpoint. To ensure contact with educational research, it should be a component part of a university, but of a university with a Graduate School distinct from its colleges and related to the College of Education through a Department of Pedagogy in control of great schools of observation, experimentation and practice.

To secure the presence of the varied conditions necessary to the maintenance of different types of high school, academic, manual and industrial, as well as the training of teachers for effective service in city, town and country, it should be located in a great city or its immediate neighborhood. To make all other conditions effective it must be part of the state system not only through legislative establishment and support, but through the active sympathy and co-operation of every educational agency in the commonwealth.

Mere Academic Knowledge Inadequate for Effective Teaching.—If, as is quite commonly assumed, all that is necessary to the effective teaching of a particular branch of learning is the academic knowledge involved in the complete mastery of its content and method, the college of arts and science could give all the training necessary. The fact, however, that almost every college or university, large or small, both in Pennsylvania, and the country at large, now supports a chair of Pedagogy, is confession on the part of the college itself that something more than fulness of academic knowledge must figure in the training of teachers. In fact so far as it is not viewed from the standpoint of culture and is involved merely in the selection of the details of the subject-matter to be taught and the relationships in which they should be presented to high schools pupils, fulness of academic knowledge, whether extensive or intensive, is useful only in so far as it is necessary to the comprehension of the details so taught and related. Both extensive and intensive knowledge—for example the knowledge of every important fact in universal history, or detailed knowledge

of the first three months of the first year of the French Revolution, belong to the period of specialization. The high school teacher must know the specialized content adequately enough to comprehend its method, because the High School content is the introduction to it, and because in some subjects he must teach their peculiar methods as well as their partial subject-matter. To give him this part of his equipment is the function of the college of arts and science. But the content which he should teach in the high school is different from that which has been taught him in the college. It is something less and something more. Selected not with a view to the completeness of the sciences or the habits involved in original research, but to the realization of a many-sided educational aim in children in a certain period of development, it should include all details which tend most directly to stimulate to social, moral, political and industrial activities, together with all that will aid in presenting and associating those details in the most interesting and impressive way. The college specialist is right in his insistence that the mastery of his specialty and the logical or scientific method peculiar to it is all that is necessary to the teaching of it as a specialty. In specialization the individual must adapt himself to the specialty or select the specialty to which he is adapted.

But neither the high school nor the first years of the college course should be included in the period of specialization. It is not his specialty that the high school teacher has to teach, but children. It is not mathematicians, historians, linguists and scientists that the high schools are to develop, but the activities of mind and body necessary to the highest welfare of the individual, the community and the state. The academic knowledge necessary to the high school teacher makes for this. It is details that serve this end that he should possess in all their fulness, and these details neither college nor normal school can give in the absence of the curriculum and organization necessary to a teachers' college.

One of the main sources of weakness in the American High School—the most immediate cause of much of the dropping out of pupils—is the narrow and remorseless work of expert specialists who are not expert teachers.

College Domination through the Specialist Rather than through Entrance Requirements.—It is not so much through its insistence upon uniform entrance requirements that the college is dominating the high school, as through this more personal domination—less conscious, but more effective. The high school must continue to teach a certain fixed content in the languages and mathematics whether the college requires it or not; not necessarily to each pupil in its entirety, but the general high school content and that of the college preparatory course in exact or formal subjects must be identical. Even in literature, history and natural science, and in the broader content that the readjustment of education to new social conditions is imposing upon the school, the determining influence of the college is not felt so much through its elastic specification of masterpiece, period, or experiment as through graduates equipped for teaching a multitude of details necessary to full knowledge of a branch as a whole at the expense of those details both within the branch and outside of it, either directly related to effective service and the wholesome employment of leisure, or directly useful in making such relationships permanent and interesting.

The College Responsible for the Sacrifice of Culture to Specialization.—For this unconscious domination the college of arts and science can be held responsible only in so far as it fails to perform a function properly and unquestionably belonging to it. It can not be held responsible for failure to give professional training to the teacher any more than for failure to train the lawyer or the physician. It has been justified in offering the general pedagogical courses which it now includes in its curriculum, either on the assumption that they are cultural notwithstanding their bearing upon school-room work, or on the ground that the last two years of college life can be devoted in part to technical work. Although both alternatives are tenable, the college of arts and science can not be held responsible for the purely technical phases of the teacher's training that make directly for skill.

It *can* be held responsible for a premature sacrifice of general culture to specialization, not only from the standpoint of academic knowledge to which general culture contributes many details immediately useful, but for the sake of general culture itself which the high school teacher must gain in all its manysidedness before he can adapt it to the needs of his pupils.

Two factors are at present tending to narrow the cultural training given by many colleges—the tendency toward intensive work, and the unrestricted operation of the elective system. Intensive work is not cultural. In the college it represents the personal phase—in fact the only phase—of university domination, and makes for specialization rather than for manysided knowledge. A system of free electives has the same tendency. In the one case general knowledge of a subject is sacrificed to exhaustive knowledge of some part of it—rather than to detailed and hence more concrete knowledge of the few parts usually necessary to comprehension of the whole. In the other, whole subjects are sacrificed for the sake of others apparently more interesting, or better adapted to the individuality of the student making the choice. In both, general culture is sacrificed to specialization. If specialization is thus to be permitted at the very beginning of the college course, why not professional training? The specialization of professionalism is no more at the expense of general culture than the specialization of individualism or of erudition.

Whatever the stage at which specialization should begin, it is not in the first year of college life. No one will seriously urge that the boy entering college from the high school has made the nearest approach to manysidedness of knowledge and interest of which he as an individual is capable, that all his tastes have been formed, and natural tendencies revealed. If he is not interested in literature, dislikes nat-

ural science, or has not the mind for geometry, it may be as the result of the inadequate repetition of propositions and constructions, a too mathematical treatment of physics, or the vivisection of poems and essays. His lack of interest may have been in a teacher, his incapacity the result of poor method. Before he is left to follow the lead of instinct or fancy or compelled to dig deeply in some narrow field of knowledge, there should be one last effort on the part of the college to interest him in every general group of studies. Perhaps the work of a great teacher may develop latent powers, or contact with a rich subject-matter inspire new interests. At least on his entrance he should be confronted with the requirement of a year's work in every great field of learning, and put under the most efficient and stimulating instruction that the college can afford—rather than that given by men, experienced or inexperienced, whose main interest is in graduate school work. Then, possibly at the end of his sophomore year—after this final effort to develop many-sidedness—let him specialize. And when he begins to specialize by doing intensive work, and to specialize by following his individual bent, let him, on at least equally rational grounds, shorten a period of professional training that is lengthening into an undemocratic barrier to professional life, by specializing in his profession, as he can specialize in erudition or avocation.

Professional Culture most Effectively Gained Outside the College, but in close Relation to it.—While the general culture and to a limited extent the academic knowledge necessary to the high school teacher, must be gained in the college of arts and science, his professional training should be gained outside. The professional culture that gives to special method the intelligence that general culture gives to academic knowledge, is already a part of the general College course. The philosophy and the history of education, school administration, sociology and school hygiene, general psychology and the study of adolescence as distinct from experimental and physiological psychology are cultural not only professionally but in the same sense as any other college branch. From the professional viewpoint, however, they can be most effectively taught outside of the college of arts and science, in close relationship to the special method from which, when taught within it, they are often so remote. They must not, however, be divorced in time or space from the general college course of which they would otherwise form a part.

In view of the traditional definition of liberal knowledge, it is well to note that professional culture through the permanency of its knowledge and interests, may furnish the teacher's most certain approach to general culture. The same relationships that bring remote fields of knowledge to bear upon the specialty, once made more or less permanent on the mind of the specialist, render it possible for the facts so retained to become centers of association for ideas and interests which will lead the mind away from everyday routine. This tendency toward culture as avocation is obviously more potent if professional and general culture are sought at the same time, and therefore necessarily in an institution presenting separate and distinct opportunity for each. The very objection made by extreme champions of both professional training and the liberal arts to their co-existence at the collegiate stage of education is in itsef an admission that they reenforce each other. Their giving is one that enriches. It involves loss only where interrelation is impossible between a professional training which, unlike that of teachers, excludes professional culture and a liberal education which, like classical learning before the days of Thomas Arnold, has little connection with modern life.

On much the same ground that professional culture should be given by the faculty of the college of education the general culture, that should parallel it during the last two years of the college course, should be gained from the faculty of the arts and science. Otherwise, the many-sided relationships which it involves will not so certainly lead to what is liberal in the sense of being non-professional, if not non-intensive and non-individualistic. It is for this reason that the various technical and professional schools that compose a great university should always cluster round the college of arts and science.

Professional Knowledge Should be Taught where it can be Closely Related to Practice.—While all this is highly desirable, it is obviously essential that mastery of the academic content as it should be taught to children, together with special method of teaching, observation, practice and experimentation, and such part of professional culture as is not generally cultural, should be gained outside of the college of arts and science. It is the effort to teach pedagogy as a conventional college subject that has put it up in the air, and led the occupants of pedagogical chairs to criticise teachers as too much interested in details, and to feel shocked, as one states in Scribner's he was shocked on a recent itinerary, when asked whether phonic or alphabet, rational, word or sentence method was the most effective in teaching reading. Culture neither takes the place of technical skill nor results in it. There is at least one thing pedagogically more pathetic than the teacher ignorant of general principles blindly following a special rule, and that is a student or professor familiar with general principles but ignorant of the special conditions under which they apply.

Partial Professional Culture Possible in the College.—It is not impossible for the principles of general method to be so taught even in the college of arts and science that they are seen to have some definite bearing upon the details of schoolroom work. Such courses supplemented by visitation to high and elementary schools, under the supervision of a professor versed in the technical as well as the cultural, represents the most effective service now being rendered by American colleges toward the training of high school teachers. Such work, while not ineffective, is inadequate. It is *comparatively* ineffective when contrasted with what is possible in colleges of education properly equipped and located. The creation of such institutions, however, will not result in

the abandonment of pedagogical courses in the colleges of arts and science. Each college will continue to perform an important function in the training of high school teachers. Each has its own territory and will attract students who, without it, would not have taken a college course. Its liberal courses taken, and its professional culture mastered, they can complete their professional training, and, where it is desirable, independently continue their liberal courses in the college of education.

The Main Function of the Normal School, the Training of Elementary School Teachers.—At first thought it might seem that this supplementary function could be effectively performed by the normal schools, either as they at present exist or transformed into normal colleges.

The first alternative is obviously an unfortunate one. As they at present exist normal schools are organized mainly for the training of elementary school teachers. Aside from professional culture the technical training of the high school teacher must be different from that of teachers preparing for elementary school work. Even the knowledge common to both groups must in the case of each be related to a different set of details in content, method, and organization. They should therefore be taught it in different classes. If they are taught it by the same faculty, each will be taught at the expense of the other. If they are taught it in different classes, and by different faculties, why not in a different institution? The fact that the number of elementary school teachers is many times the number of high school teachers, either prevents on economic grounds adequate equipment for the training of high school teachers, or involves less adequate equipment for the training of each.

The term normal college, usually a misnomer applies in one or two instances to a strongly-equipped institution both liberal and technical, that has been superimposed upon a normal school already existing. But such a normal college would be a college of education in all respects such as I have described except that it has added to it, and has been added to, a normal school, and is not so located that it can be immediately related to an independent college of arts and sciences, and the department of pedagogy and other departments of a great university.

Such a foundation not wholly adequate on account of these inherent deficiencies, becomes impracticable, where it is necessary to choose between a number of useful and influential normal schools, and where the existence of properly located universities makes it uneconomical for the state to fail to utilize their broad resources. Like the colleges the normal schools will continue to play a most useful part in the training of high school teachers, but will leave it to the colleges of education to complete it.

While the argument has so far concerned itself mainly with the adverse conditions under which existing institutions are attempting to train high school teachers, and the limits within which they can continue to exercise that function, it has been with a view to the conclusion that colleges of education should form a part of a state normal school, college and university system.

Why a College of Education Should be Related to a Graduate Department of Pedagogy.—From the standpoint of culture, such an institution must be allied to a college of arts and science. From the standpoint of educational research it must be in immediate contact with the Department of Pedagogy of a university. The science of education is slowly but surely passing over from a deductive to an inductive basis. Graduate work in education is concerning itself more and more with educational as distinct from psychological research, the analysis of the general educational principles suggested by other sciences, and the certain determination of the conditions under which each detail of principle can be applied in the effective teaching of each detail of school work. It is only as the result of such investigations that special method in teaching can be given universal validity, and the school adjust itself to the new conditions which will continue to confront it. If at least from the standpoint of method, high school teachers are to be kept alive, if they are to grow as the function of the high school grows, and change as it changes, they must in their professional training, see the way educational experiments are carried on, and form the habit of keeping in touch with their results. The actual conducting of such experiments no more forms part of their college work than any other phase of university research.

All these Conditions Possible only in Great Universities Located in Great Cities.—From the standpoint of special method, the college of education must have connected with it great schools of observation and practice, representing each stage of education and including rural and special, as well as the city graded school. It must offer not only training for high school teaching but for city and county supervision, the supervision of special grades, and the teaching and supervision of special subjects with the possible exception of the teaching of agriculture provided for by government appropriations in the Land Grant Colleges.

Only a great city and its environment can furnish the necessary conditions, and only a great university can afford the ideal organization.

The Universities of Pennsylvania and Pittsburg are so located that they furnish both, and are at the same time convenient of access to the teachers of the two largest cities of the state, and the eastern and western halves of the commonwealth as a whole. Each has already taken steps to become more useful to teachers. Each is therefore likely to welcome co-operation with the state to enlarge a restricted usefulness into more efficient and general service. If associations such as this, through resolution and personal influence aid in creating the necessary public sentiment, there is little doubt that normal schools, colleges and universities will unite in furnishing a complete professional training for every type of teacher and supervisory officer needed in the public school system. The present revision of educational legislation in the state makes such a movement timely. Co-operation will make it possible.

Prof. O. H. Bakeless, of the department of pedagogy of the Bloomsburg State Normal School, continued the subject in the following paper:

THE PREPARATION AND IMPROVEMENT OF THE HIGH SCHOOL TEACHER.

This problem of the preparation of the teacher for the high school work is a vital one, and it behooves the high school authorities, the university man, the college man, the normal school man, and the teacher who "just growed" to go slowly in their judgments and preconceptions of what a high school teacher should be and know, and have and do, to be counted worthy to stand among the elect.

That the leaders and teachers of the high schools the country over, rank and file, ought to be superior men and women, with broadest possible culture, soundest scholarship, deepest sympathies, and surest understanding of the adolescent mind and its certain means of approach, need not be said. The best alone is good enough for the future guardians of our American institutions.

The author of this paper would state specifically here that, in his judgment, the normal schools have already in their struggle with the elementary school problem, their wrestle with the grades, more to do than they can accomplish to their satisfaction. The high school work demands more than the normal schools, as now organized, are prepared to give.

There is much, however, incidentally along with their work, that they can and must continue to do for the high schools in the spirit of true service. Many of their best graduates will, for many years to come, do effective work in the high schools of the country. Above all, these schools must not and do not assume a "we are the light of the world" air, thus giving offence and making themselves ridiculous to the earnest educators in broader fields of culture and higher departments of learning. If this stage of development of the normal school ever existed, as has been rumored, we trust it is forever hence a forgotten chapter. In taking this attitude, I would not belittle the work of the normal school, one of the most practical and necessary institutions ever conceived and wrought out by large-souled, far-seeing men for the uplift of our people.

Nor, on the other hand, can I conceive that the problem is any better met by a mere college course of four years, which makes very meagerly for culture only, and, as is often the case, leaves an implied doubt as to the efficacy of special preparation or training for teaching of any kind.

Nor is the situation any better met when a few optional lectures, or meager courses on pedagogy and education are given by teachers, often such as have little enthusiasm for the work or belief in the necessity for such a department. Such work brings us little nearer to solving this problem than the elementary scholarship and elementary training of average normal schools.

Nor yet, can I conceive of the university man, with his chief interests centering in the solution of problems scientific, ethical, social, psychological, philosophical — thus enlarging the domain of knowledge, with every youth in his grasp as a subject upon which to test his theory, as coming nearer to the solution of this problem of preparation of the high school teacher. So much for the negative side.

There is a training needed to supplement or to go parallel with this scholastic work, that will find and bring out the teaching quality more or less hidden in every being.

Positively, I would have a cultured collegian or university man or woman, pedagogically well-trained, in every high school position in this land. I would have him, by actual practice in the schoolroom, a trained teacher. I would have him a trained teacher before he assumes the responsibility of a department in a high school, an enthusiastic student of education, an expert in his line, if you please, proud of his opportunities and privileges. I would have him, first of all, a graduate of an accredited high school, that he may in retrospect actually know the sensations of young life in its stages of froth and foam, stress and strain, joy and uncertainty. I would have them, as actual high school teacher, students of social economics, conversant with the homes, hopes, ambitions, limitations of, and needs of their respective communities, living close to the public heart, and knowing instinctively the unformed thoughts and yearnings of true America. Impractical, do I hear? It will do for an ideal, while we are further learning this lesson of preparation and devising means of attainment. Then, coming closer to this problem of preparation of the high school teacher, let us for a moment touch the "what" and "how" of it. To have anything like an adequate preparation for his work the candidate for a high school position should have considered it from three points of view.

1. Knowledge of the subject-matter he proposes to teach, from the teacher's and, even better, the learner's point of view, assuming the wider knowledge that his advanced courses have in a manner supplied, so necessary to making his teaching effective—and this implies at least college training.

2. A knowledge of the human mind, as he must meet it in the class room of the secondary schools and its wonderful machine, the nervous system and the human body.

3. An acquaintance with the body of well-accredited educational principles based upon that psychology, and their application in the art of teaching; a history of educational methods with its array of successes and failures, including some practice under expert supervision until the novice has gained poise, insight, and a degree of power that will insure, in a measure at least, the right development of those entrusted to his care.

These three lines of work do not differ materially from those the candidate for elementary positions must pursue, but they do apply to a vastly different field, at a different stage of development, and are very far-reaching in their ultimate effect.

From the standpoint of scholarship the candidate for this work must know that which he proposes to teach, he must know it well, he must know it in some measure at least as

a specialist, but not as "a narrow man who seeth great things small." And to do effective work he must know much more than he teaches, with sanitv to select the thing needed for the growing mind. He can not throw everything into the intellectual hopper before him, and insure the brand of the grist when it is ground.

His training in this particular is succinctly summed up in the introduction to the report on the preparation of secondary teachers. Briefly summarizing, it must concern itself with subject-matter not as mere original information but from the point of view of the teacher or, better still, from the point of view of the immature learning mind. The teacher in every process must live over again his own difficulties as a learner. He can not get this attitude in the ordinary class-room, but only as he dives into the matter as material to be presented to the learning mind. As a specialist, he should know his subject adequately, minutely, enthusiastically, but not in a way that blinds his soul to the worthwhileness of other departments of knowledge. In this it is that the perverted specialist does his work of death in the class-room of a secondary school.

The prospective high school teacher must have learned to do his own thinking early in his course, if this training is to count most effectively in his work as a teacher. He must, above all, keep young, fresh, sympathetic—not sentimental—never forgetting that the fountain of perpetual youth is found in the heart of the true teacher.

This then points to a review, a partial relearning of one's subjects under the guidance of a practical, critical teacher and educator, what the high school teacher would teach—and at the same time a study of the quality of the mental act and the attitude of the learning mind, at any stage of the process of education.

And here we feel the need of the second line of necessary training. The pupil is of more moment than what is to be taught him. He will determine at every step of the process what the teacher will do next, and the teacher must recognize the necessary step. He must, therefore, thoroughly know the adolescent mind, and to know this he must again know much more. With the body of psychological principles established, the high school people must solve their own problems in their own way to the best interests of those concerned. Briefly, to summarize, the prospective high school teacher must know the human mind as association with his fellows and the study of his own conscious processes permits. From the great mass of general psychology, will be formulated, for his constant use and guidance, a few great principles that will form a safe educational psychology. The processes and laws of apperception, association, assimilation, interest and suggestion in their relation to mental development and character-building, which can only safely go on as based on a knowledge of adolescent life and accompanied in the training process by sympathy and love. He must face all the problems of emotion and will—habit-forming and its mental basis—all closely related to moral life and development.

And this presupposes an understanding of the nervous mechanism and sense organs, motor and sensory tracts and all that is here implied. Types and temperament bring us to the great problem of discipline and study of principles involved—suggestion, imitation, the force of personality, the imagination, the ideal, the influence of all these on the shaping of morality and character-development.

Psychology ought to give a teacher poise, power of judgment that will not permit him to be overwhelmed by the emotional whims, and erratic vagaries of every enthusiast unsustained by principles. The interested student craves arduous toil, not dalliance and ease at this stage of development, and the teacher must be ready to lead him at every step. The novice under training must be reminded constantly that he will have under his care at the most critical time the prospective man or woman—body uppermost; mind as judgment, imperfectly formed; unsupported by a rich experience; many blind impulses strong, calling loudly for recognition, moral poise wanting; the cravings of primitive man imperious in their poundings at his heart for licence to sway the being; as yet, not much appreciation of what the parents and teachers strive to do for him by training. Yes, the work is glorious, the responsibility appalling.

That the novice who understands the great underlying principles of his work or profession is better able to go about it than he who experiments blindly until he gains some degree of proficiency is conceded. Secondary education has had its field under exploitation from antiquity. Some facts and principles have been established. It has a history written in the recorded career, methods and practices of great teachers. Their successes and failures are written broadly for our edification and admonition. The student who assumes any department in a high school without having studied the successful experiences of the past, in his own department at least, is a wasteful empiricist.

What the normal school or advanced training college hopes to give after all is only a bent toward pedagogical study, a taste for it, an appreciation of its value. If the novitiate does not zealously continue his study and investigations he will hinder his own success and bring reproach upon the cause he represents.

This brings us to the third step in its process. Theory is not practice. With all the theory practice alone counts after all, and those institutions that plan for actual practice of the novice in the subjects he expects to teach, and a study of them from the teacher's standpoint, as well as that of the pupil's, will most economically fulfill the conditions of true teaching—the giving of power to select and present conditions for economic educational effort. I know no better way for this work than the good secondary practice school, under the expert critic. Some universities and colleges arrange for this; others, under expert guidance, will come, and young men will recognize their value and use them. In the meantime the plan of breaking in young collegian recruits by two or three years of experimentation will continue. Better if this

could be done under close sympathetic supervision and counsel of an expert principal or superintendent. No doubt, here the teacher trained in the normal school has the best chance of success at first, if principles and not devices have been most prominent in his training, and right habits of professional study inculcated. The thoughtful collegian, alert to the work, and interested, in the end, will best meet the needs of the high school, and recognize the value of special professional training, and respect the work the normal school and training colleges attempt to do because of his wider scope, and deeper insight.

Methods can not and must not be clearly defined or limited in this work—this is always a step toward dull routine and stagnation. The candidate must know the success or failures of the past, and then plan to meet the needs of each class. In Latin, literature, science, mathematics, drawing, etc., who does not know that the past has often set the pace in irrational presentation, and nine out of ten using the method of imitation, have fallen into the little circular treadmill, doing the work as our ancestors did it, while the practical world knows it means lost time and stultification to a class. The training that makes a teacher *think and work independently,* whether in the university school of education, training under expert supervision in the schools themselves, visiting and observing expert teaching, or by several years of blind unguided experimenting with a survival of the fittest, will be the one most worth while.

And each should, early in his course, formulate his philosophy of education, that he may adjust it to his environment, his age, his community, his pupils, when the time comes. When one plan of presentation of a truth does not bring results, a teacher must have necessary versatility to change, to modify it. He who knows many ways and the laws controlling mental action has originally to do this. Others are helpless.

We want the best men and women as high school teachers and when accredited they should rank professionally with other professional men. It will come to that. Hope is written large, and it is due to the struggle made for the work, by our educators from the higher institutions. An Eliot, Hadley, Hyde or Harris, by one sentence hurled from the pinnacle has again and again shaped the policy of the secondary schools. We are not yet rid of the dead crust of tradition that mediæval institutions have fastened upon us, but it is cracked and crumbling and each one of us is privileged in being permitted to replace it by something more rational and better adapted to the age we represent.

The high school demands a training, then, beyond what the normal schools are planned to give. They can and are doing much to help this work. Every student sent by them into the educational work has an intelligent appreciation that teaching based upon the laws of the being taught, is alone, rational teaching; that growth on the part of the teacher is necessary to continued success.

There is no doubt that the professional preparation for the elementary grade work will give a professional attitude toward all educational work, and toward all study. Those students who have taken this training and then go to college, usually have a better attitude toward their studies than other students, as collegians, and know better the import of what is being done. They can judge better as to results and demands. The normal school, while it can not give the wide culture and full training for this important field, owes it to the State to encourage every bright mind that promises well as a student and teacher of advanced subjects to go on to higher institutions and specialize for work of the higher grades. They can take the likely boy or girl and do much toward preparing him or her for effective teaching of many subjects of the high school. It can lay a safe and sure pedagogical foundation as to mode of procedure—it can fill them with such enthusiasm that the college and university will find them among their strongest and best and most appreciative students, and the ones who will do their best and most rational work.

A word as to the growth of those already in the ranks. In teaching, as in any other vocation, the early, or preliminary, stages of training are of very little account unless the teacher or worker puts himself in the line of growth, development, *improvement.* And here is the rock upon which the teacher in all grades most tragically wrecks his professional bark. The teacher who drifts out of the current of educational thought and advancement into the eddy of routine is dead professionally, and is death to the intellectual life of his students and to a community. Growth is a process that must come from within, not forced from without, as too many superintendents and principal teachers have learned to their sorrow and chagrin. Improvement must be along two lines, professional or vocational, and recreative or avocational. This improvement may be planned individually, or in clubs or groups with a few fellow-workers, or by organization or institutional study, summer schools, etc. The teacher, and particularly the secondary teacher, who does not yearly keep some line of work going for his own improvement because he wishes to keep "the faculty of effort alive in his being," loses his mental grip, his sympathy for his pupils and his work, and dies professionally, without being aware of it. There must be some intense reading or study outside of the preparation for his daily classroom work.

There must be some advance in his chosen department. There must be some enlargement in fields outside of his own department, by way of recreation, in books as well as change of scene. The outdoor world should touch his life and interests, too, in some phase, if he would live largely and sympathetically in a large sense a teacher belongs to his community. They need him. His knowledge of books and libraries, of young people's reading, must be intimate, fresh, at first hand, if he expects to be a safe guide to the student. Hence, yearly he must read something that appeals to the adolescent. This means growth to the teacher and health to his class. The best help to many a teacher's understanding

of young life is just the character touch that a "Tom Brown," "Captain Courageous" or "Young Barbarian" may give him.

The mutual work of two or three teachers of congenial tastes meeting weekly, as a club for voluntary improvement can be best appreciated after a year's trial. Now, pedagogy, then history, science, literature, art, economics, fall naturally into the scheme of enlargement. Time! Find it, or make it, as the Romans did their ways to conquest. The organized weekly teachers' meetings, and contact with educational leaders under guidance of a wise, sympathetic principal, are never-failing sources of power. The summer conventions, with the change and travel, affording an opportunity to meet and hear the great teachers of the land, are a source of inspiration and uplift. A teacher who does not, every few years, touch elbows with educators in a wide-awake summer school for a few weeks, is in danger of losing something out of his life that makes for power —enthusiasm.

An occasional trip abroad or to other scenes is coming more and more in vogue, and is well worth while. He who decries it all as useless is sounding a requiem to his own professional death. All that keeps the soul young, the heart aglow, is worth while. And we must not forget, too, that in rest and quiet, among the hills and valleys, and by still waters, often comes the touch of inspiration that is akin to growth and soul uplift. Nature is a superb teacher and the solitude that enables her to murmur soothingly to the tired nerves sometimes brings health and enlarged vision. John Burroughs and the other nature-fakers will do much to put us teachers in tune with the universe, and with our noble calling.

Briefly summing up, preparation for the high school work must vitally concern the college and university. These should be equipped with, or their students expecting to teach should have, access to schools of education for study, observation, and practice in the art of teaching the subjects they aspire to teach later in the secondary schools. Only incidentally, as now organized, can the normal school reach the problem; though many of its best graduates will continue to do most effective and enthusiastic work in these schools. The normal school's most valuable work for the secondary schools will continue to be, as it has been, in taking the promising young men and women who come to them from year to year vaguely searching for their life-work, arousing their enthusiasm and their zeal for teaching, an ambition for a wider field, giving them a pedagogical training and trend of thought, sending them on to the higher institutions for a scholarship fitting the secondary schools, and the inspiration that goes with the broader view.

As to improvement on the part of those already at work, a high standard can only be kept when a constant enthusiastic effort at improvement by every available process—individual, club, meetings, associations, travel, wise rest, contact with nature and communion with one's own heart away from the haunts of man—can give.

In conclusion, I would say, then, to the boards of directors puzzling on the problem of employment of high school teachers, by all means look for a normal trained man who has at least carried his education forward through the college with a view of teaching in these schools; or a collegian who has taken special training for teaching, during part of his course, and who aspires to make the work his profession, rather than a stepping stone.

If a principal or supervisor is needed, knock at the door of a university for the man who has taught, and knows child-life and has studied the educational problems as an expert. Believe here, as in other walks of life, that specialization counts.

Supt. L. E. McGinnes, of Steelton, continued the discussion upon the training and improvement of High School teachers, as follows:

COMPETENT HIGH SCHOOL TEACHERS.

On the whole I find myself in accord with the excellent papers to which we have just listened, presented as they have been by representatives of more or less widely different institutions, interested in the preparation of teachers. It is a source of gratification that the country provides so amply for the material needs of popular education, and it is equally gratifying that it makes almost as liberal provision for the training of its elementary teachers. It is surprising, however, that up to a very recent date, it has paid so little attention to the preparation of teachers for its secondary schools. One reason for this is the fact that the high school is of more recent growth than is the elementary school. Doubtless the strongest reason is to be found in this, that school administrators and teachers themselves, as a rule, have not had a high ideal standard of requirements. To this day many continue to act upon the old-time erroneous belief that to know is to be able to teach; that "scientific acquirement" produces "pedagogical fitness." To illustrate: When a vacancy occurs in a high school faculty, the authorities look about for an individual to fill the position. In addition to character and personality, theoretically they look for at least four qualifications: general scholarship, special scholarship, professional training and practice in teaching. Practically, they expect but two of these qualifications and they are the two that pertain to scholarship. Generally speaking, they secure what they expect. Among the credentials that the candidate presents is a recommendation, perchance from the president of the college from which he is a graduate. This recommendation justly emphasizes the personal qualities of the candidate and it lays particular stress on his scholarship both general and special. Notwithstanding the fact

that he has had no professional training whatever and that he has never taught school a day, the letter of commendation is likely to conclude with a statement somewhat as follows: "I believe he will fill the position admirably." As to the young man himself, he is not much to blame if he has no higher professional standard than the superintendent who asks for him or the college president who recommends him.

If it be true that the space between a man's ideal and himself is his opportunity, the country at large has no better opportunity to strengthen its educational system than by the establishment of a reasonable ideal for the professional preparation of its secondary teachers and then by gradually but persistently working for the accomplishment of that ideal.

Perhaps the value of this discussion will depend more on the emphasis that we place on the ideals that have been so well presented in these papers than by any other direction that it might take.

In the first place it goes without saying, that a high school teacher should have a knowledge of *the History of Education.* If he is to see and feel something of the influence that modern education is exerting upon the civilization of to-day, he must know something of the influence that education exerted on the civilization of yesterday. Furthermore, if open-mindedness is an essential quality of a successful teacher, there is no better school for the development of that quality than the school of educational history.

The fact that the high school is to such a large extent a social institution makes it incumbent upon its teachers to have a knowledge of *practical sociology.* If the function of the high school were nothing more than a fitting school for college such knowledge would be valuable. Much more is it important when it is remembered that a high school has no such narrow limitation. It is largely a fitting school for life.

A knowledge of *Physiology* far beyond what is usually presented in an elementary text-book, and a thorough understanding of the principles of *school hygiene* are essential professional qualifications of every high school teacher. At no stage of the physical development of the student does it need to come into contact with teachers who believe in the gospel of the body and who by practice and by precept constantly preach that gospel, as in the four years spent in the high school.

A knowledge of *Psychology,* particularly with reference to teaching and to the adolescent period in life is no less important. It is practically impossible for a teacher who is ignorant along these lines to be able to assist in creating proper ideals for this period. Nor can he do much to assist in the formation of the correct habits that should be formed at this stage of the pupil's life. Then, too, without this knowledge he is likely to deal with high school students as he would with college students, forgetting that as far as intellectual maturity is concerned they are still boys and girls.

There are a few well-grounded *principles of education* that every teacher should possess irrespective of the grade or department in which he teaches. One marked distinction between a machine teacher and an artist teacher is in this, that the latter sees how every device and method that he employs is related to some sound pedagogical principle. The machine teacher draws no distinction whatever between a principle and a device, and he is just as prone to use a device as an end as he is to use it as a simple means to an end. A high school teacher's scholastic preparation, if it has been scientific and logical, will in a measure enable him to avoid such pitfalls, but there is no assurance that he will avoid them unless he has at least some knowledge of what these underlying principles are.

The day has gone by when a departmental teacher should undertake his work without a knowledge of the *special methods* that pertain to his department. If he is to teach mathematics, he should not only know mathematics but he should be familiar with special methods of teaching mathematics. If he is to teach science, in addition to his knowledge of science he should have a knowledge of the science of teaching science.

A high school teacher's professional preparation is lacking if it does not include at least some knowledge of *School Administration.* By the very nature of his position he works with individual pupils, with classes, with other teachers, with the principal, with the school as a whole, and with the entire system of the city or borough. Unless he has a grasp of the unity of the situation he is in danger of regarding his department as the most important one in the system and the head of his department as the most important man connected with the schools. He needs to learn early in his career something of the significance of Colonel Parker's slogan of success, "Unity of action and liberty of individuality." If there is one teacher more than another that should understand the meaning of that much-abused word *apperception,* in its broadest sense, it is the high school teacher, for he must see the relation that his sub-

jects bear to other subjects and the close connection that his department sustains to each and every other department.

In addition to this professional preparation from a theoretic standpoint, an opportunity for practice teaching is no less essential. The high school teacher as well as every other teacher should have an opportunity to work over his knowledge for the purpose of producing. In his academic preparation he learned in order that he might know. In his professional preparation, he learns that he may produce. This process leads to the art of teaching. An art that can not be acquired without practice any more than can the art of painting, the art of music, or the art of literature. Both papers not only suggest but clearly state that this practice for high school teachers should be secured at our higher institutions of learning; that while our State Normal Schools are doing all that reasonably can be expected of them in training teachers for our elementary schools they are not equipped for the preparation of high school teachers, beyond what is required for positions in the lower accredited schools. It is to be hoped that the Commission appointed to codify the school laws of the State will recommend some practical scheme that will afford additional facilities for the preparation of secondary teachers.

A few thoughts concerning the improvement of high school teachers that are now in the ranks. Some of these teachers have had adequate scholastic preparation either by having had the advantage of a college course or its equivalent. A few of them have had both professional and academic preparation but the great majority of them have had no professional training whatever. Still another class, and not an unimportant one, is made up of teachers who have had the advantage of a normal school training but have not had the academic preparation that a college affords. There is one thing, however, that all of these classes have in common irrespective of what their opportunities for preparation have been and that one thing is the *opportunity for growth.* Another fact that should be remembered from the least to the greatest is that the professional "dead line" is reached whenever growth ceases. The best high school teacher is not always the one that is prepared best. Ofttimes it is the one that grows most. There are at least two reasons why a high school teacher is in danger of professional death. In the first place there is a possibility of his becoming a slave to his department, and slave chains always stifle growth. It is said that a noted professor in one of our leading universities became so absorbed in the teaching of Greek that nearly three months after the destruction of the Maine in the harbor of Havana he had not yet learned that his native country was engaged in war with Spain. He was so absorbed in his department that he had no time to read the newspapers or to engage in social converse with his daily associates. In the next place, more than in any other profession, the teacher is required to deal with immaturity. Many of the minds that he touches are potentially strong but actually weak, for the reason that they are undeveloped. As a consequence, unless the teacher is possessed of the spirit of perpetual growth he is in danger of falling a victim to the leveling process brought about by the commingling of intellectual maturity with intellectual immaturity. If the high school teacher of to-day is to avoid this pitiable condition of arrested development; if he is to be a vitalizing force in the proper training of American manhood and womanhood he must keep in touch with the best in modern educational thought and practice. To omit reading for general and professional culture; to neglect opportunities for the visitation of up-to-date schools, and to ignore the value of the teachers' meeting, the teachers' institute and the teachers' convention, is to invite professional decay.

There have been times in the history of our state when the educational outlook was discouraging. Perhaps at no time has the situation been quite as hopeful as it is to-day. This is particularly true with reference to our secondary schools. With a body of teachers, the great majority of them, both in city and country, keeping step with Twentieth Century educational progress; with a wise provision for intelligent and effective high school inspection, and with fair prospects for additional and more adequate facilities for the preparation of high school teachers—to say the least, the outlook is hopeful.

This department is to be congratulated on the part that it is playing in this gradual but wholesome evolution, and more is it to be congratulated for the part that remains for it to play.

An interesting general discussion followed touching upon better preparation of high school teachers and the best means of attaining it; the difficulty of obtaining teachers so trained, especially for small high schools; the methods of certification and how to improve them, etc. This discussion was participated in by Dr. Yocum, Inspectors Hertzog and Koch, and Princi-

pals Dickson, Kehler, Breidinger, Hosterman, Adams and Bock.

Before adjournment Chairman Robb, of the Committee on Nominations, made the following report which was adopted and the officers named unanimously elected:

President—Prin. Wm. L. Smith, Allegheny.

Vice President—Prin. Chas. S. Davis, Steelton.

Secretary—Prin. Jno. S. Hosterman, Montrose.

Treasurer—Prof. L. J. Ulmer, Williamsport.

Executive Committee—Prin. Cheesman A. Herrick, William Penn High School, Philadelphia, Prin. J. F. Adams, Millersburg, State Inspector, C. D. Koch, Harrisburg, and Prin. Albert H. Wells, Scranton.

TUESDAY EVENING.

AT the evening session which was held in the caucus room of the House of Representatives, a good audience was in attendance. The address, which was of unusual interest, was by Dr. C. F. Hodge, of Clark University, Worcester, Massachusetts, upon "Civic Biology: A High School Science devoted to Community Welfare and the National Life."

CIVIC BIOLOGY.

My title, I am informed, has proved something of a "quiz." "What kind of biology is this?" you ask. This is, perhaps, a new departure in high school science, and I regret that, as a people, we do not know the meaning of "Civic Biology." But it is certainly high time that we begin to so teach that every citizen may realize that no less than all working in harmony can possibly hope to control the forces of living nature upon which the perpetuity of our national life depends.

It may help us to a clearer conception of this point of view if you will sketch upon the wall behind me two pictures, and hold them there during the hour. On this side see dishevelled, frantic Mrs. Partington trying to sweep back the Atlantic ocean with a broom. On this side, little Dutch Peter with his hand in the hole in the dyke.

Keeping these two clearly in view, we shall need both sides of the sky—and "brushes of comet's hair," if you please—on which to depict the scenes that follow. On this side an endless series of great famines, pestilences and plagues. Among them we see London in the thrall of Black Death, grimy and reeking with filth, the dead in heaps about her churches and dotting her streets, the living, some cursing, others praying, frantic, ineffectual. And on this side we see lands smiling in health and rich harvests; clean and wholesome cities thronging with healthy, happy people. Among them is modern Berlin, and in his office in the great Institute of Hygiene, is a quiet man who says: "No pestilence can come nigh this city." He knows his dykes and the forces with which he is contending.

Nothing is more interesting than the way civilizations have grown up, bloomed, gone to seed and died one after the other in the history of the world. Will our own go the way of all the rest? Are human civilizations nothing more in effect than mushrooms or trees which exhaust the resources of the soil within their reach and then die out in one spot to spring up in another? Or is vital energy limited by some initial impulse which gradually spends itself in growth and fruition and then dies out?

The chief interest in such questions attaches to the causes assigned for these human billows of growth and decline. It is customary to say that Religion bends over the cradle and Gray Haired Philosophy over the grave of every civilization. There is one other muse, viz., Science. Is it impossible that she may not discover truth enough of the forces, laws and resources of life to enable a social order to endure, and to continue to grow into ever higher and stronger life?

Modern biology is beginning to give no uncertain answer to this momentous question. As Professor Bunge has well said: "Do not misunderstand me to say that I recognize any barrier as insurmountable to science. No, Science is daunted by no self-erected barriers. Science will ever ask bolder questions and find ever truer answers. Nothing can arrest her in her triumphant march. Even the limitations of the human mind cannot do this; for even these may be perfected. There is not the slightest reason to believe that a continuous evolution toward higher forms which moves the entire organic life on our planet has reached its goal in this, our generation. The time was, when the only sentient beings upon the earth were microscopic infusoria whirling about in a primordial ocean; and the time will be, when this earth shall be ruled by a race of men that shall rise as much superior to us in intelligence as we are superior to the amœba. The progress of science is infinite."

Whether, however, the above shall apply to our own civilization or to another must depend, in large measure, upon the kind of biological wisdom we develop. And this in turn must be determined by the organization of biological instruction in our system of education. Unless we do better in the near future than we have in the past century, we can safely prophesy ultimate and comparatively speedy dissolution of our present social order.

I must add in passing that the words "Religion," "Philosophy," "Science" do not mean very much in the older discussions in terms of modern thought. More recent, and, we may be sure, future analyses will give to purely natural causes, and these almost wholly vital, or biological, the main control over the flows and ebbs of human tides of life. Physical forces or the exhaustion of purely physical resources never have, and for at least five million years in the future, so the astronomers tell us, cannot extinguish human civilization. Floods or volcanic eruptions may cause small and local effects; while biological forces are oceanic, subtile, all-pervasive, continuously active, ever

ready, wherever or whenever a break in the vital defences of knowledge occurs, to surge in and obliterate individual, nation, civilization. Even the great movements of human races, conquests and wars are not so all-annihilating in their effects as the ceaseless struggle of mankind against the other living species which prey upon his person, his cattle and his fields. Disease, pestilence, plague, and famine, have taken their millions to war its scores.

These forces are so powerful, so vast in their sweep, that for an individual to attempt to cope with them is like Mrs. Partington trying to sweep back the ocean with her broom. Our education must be so organized that each may know and do his part.

Let us take stock a moment to see what our case really is, and then we can discuss how we may organize instruction to meet it.

We boast with reason of sanitation and enlightened social organization. True, the Bubonic plague has gained a foothold, notably in San Francisco, and has been stamped out after taking the meager toll of 77 lives. This is not much like the story of the Middle Ages, when the "black death," the same disease, wiped out cities and swept away its millions. And, perhaps, we do not need to go beyond our own country to note that during the San Francisco epidemic the plague killed 309,074 in the Punjab. But in the main this result was attained by the trained, expert organization of the federal government and at government expense. San Francisco was not able to cope with the problem. It must needs call for help to catch its own rats.

But there are other diseases equally preventable, and we have little enough cause for self gratulation while we have 400,000 dying annually of preventable disease, with about 1,000,000 continually sick, suffering the unnecessary torments of typhoid fever, diphtheria, tuberculosis, and a score of other diseases. While such conditions persist, we can scarcely boast of our success at practical civilization.

Attention is just now being intelligently directed to a study of the causes of poverty in this country, notably under the Sage foundations. From a purely money point of view we may ask what the biological forces of disease are costing us annually. Recent conservative estimates place this tax at from $2,000,000,000 to $4,000,000,000 a year. And even these figures do not include the hundreds of millions worse than thrown away on quack nostrums which brand us as an unscientific people and make us a by-word and laughing-stock among better civilized nations.

The above represent losses entirely preventable by a rational organization of our biological education. Thus the biological factors of national health and vigor should furnish, possibly the largest block of subject-matter for the high school course. These things, from the black death to the white plague, represent merely forces of living nature which operate under laws as definite and as discoverable as the law of gravitation. In fact these forces and laws have already been discovered by Koch, Pasteur and their army of students, and the control of these forces would be reasonably easy, if everyone knew enough to do his part. And dreadful as is the havoc they have wrought and are still working, we all must admit that even these forces of disease and death are at root beneficent, when we realize how absolutely they must compel the brotherhood of man, cooperation, social organization and education, and all the highest effort altruistic and scientific which has raised mankind above the brutes. When, as teachers, we all know enough practical biology to keep ourselves at the top notch of health and in full enjoyment of the efficient life, and teach our pupils to keep themselves first of all healthy, then we shall begin to be a people fit to inherit the earth.

Thus might this course in the high school be made the most precious year in the lives of our youth. On the threshold of manhood and womanhood they would be given a knowledge, the best that science can offer, of the laws and forces that make for life and health, their own and that of the community of which they form a part. Their course could thus be made to enlist them at just the most opportune moment of their lives in the vital movement for national health now so actively promoted by the American Health League. Thus might our high schools be in reality colleges of the people which shall graduate citizens of the nation.

While bacteriology, upon which much of this civic biology is based, is a recent science, it it not difficult either to teach or to comprehend. In theory it is essentially as simple as gardening—the planting of cabbage seeds and the raising of cabbages therefrom. A few years ago a leader in elementary science, teaching in Cornell University, named in a book a list of things with which nature study has nothing to do. Among them were, "sheep's brains and bacteria." Hardly had the ink dried on his page before a ghastly epidemic of typhoid fever struck Ithaca—1,350 cases and 82 deaths. I am awaiting my opportunity to ask this "authority" whether such a calamity is too "technical" and "microscopic" to use in common sense lessons in intelligent cleanliness and good health.

The truth is these minute germs represent the most powerful forces of living nature, both for good and for ill, with which humanity has to deal. The power of growth is almost unthinkable. A baby requires five months to double its weight. Given the conditions, and a microscopic germ could reproduce a mass of its own protoplasm the size of the earth in five days. No wonder the very edge of the human struggle for existence lies between man and these almost omnipotent germs. This being the case can we possibly leave the bacteria out of our high school course?

Conservation of natural resources is fast coming to be the watchword of the nation, and none too soon. No study is more fascinating and inspiring than the living forces of a great continent. No matter how severe the arraignment we should look at our treatment of these vast continental resources since the settlement of America fairly and squarely. This history gives us, as does nothing else, a panoramic view of the inadequacy, the weaknesses, the failures of our biological education as a people,

and suggests imperative measures for improvement and reform.

We see a Continent of virgin forests and prairies, holding the garnered wealth and fertility of hundreds of thousands of years, teeming with life from wild pigeons, grouse, wild turkeys, ducks, geese and swan, to beaver, deer, antelope, elk, moose and plains dotted with bison. Picture follows picture as one decade and century dissolves into the next, until now we see the Continent covered with populous cities, towns and human homes. But mark the waste of natural resources—forests destroyed with little thought of their rejuvenation and no conception of the work and the function of the forest in the economy of nature. Consequently our rivers have become devastating floods which carry the best elements of our soils by the billions of tons to befoul our harbors. Drought and flood are the sure forerunners of pestilence and famine. We see whole animal species, valuable and beautiful, exterminated over vast areas. Waterfowl—how long since any of us have seen a wild swan, grouse, pigeon?—exterminated, or so rare that a generation has come and gone who have not seen or heard one alive in its native haunts. Even the native wild-flowers in danger of extinction from eager though unwitting hands. Native song birds reduced in numbers so that insects have increased until they take their toll of one seventh of all our agricultural crops. And, worse than all, ignorance in these matters so dense as to amount to national paralytic dementia. Add to all this the ignorant and careless importation from foreign continents of insects and vermin, which, freed from natural checks, strip our forests and devastate garden, orchard and field. Perhaps the saddest feature of the present picture is the streaming of population cityward, the abandonment of the home on the land for the tenement house barrack. We have had men who fought for home and country; can we hope to find anyone in the future, when we need them, who will fight for their flats? It is commonplace that thrifty foreigners grow rich on land abandoned by native Americans. But it is almost too much, when it comes to your own Pennsylvanian Rosetta and its Italian slate quarrymen showing us how to make a village with the charm of gardens and homes about it. "And there were gardens and gardens and still more gardens and beyond a few more gardens nestled under the hill."

Now project our series of pictures a short century into the future. If we do not change our relation toward natural resources, where shall we be? What mean the rumblings of approaching storm?—3,000,000 school children in this "land of plenty" under-developed for lack of adequate food. We have a population of about 80,000,000. In a hundred years, at a normal rate of increase, we shall have 1,280,000,000. Following the biological curves of a century past for a century into the future, if they do not change their forms and directions, we cannot face the picture—forests gone, land reduced to desert, soil everywhere gullied and washing into the muddy streams, the common plants thistles, burdock and other noxious weeds, locusts again in clouds which darken the sun, the only common bird, the English sparrow, the only common beasts, Norway rats and cats run wild, ruins of houses, towns and cities everywhere, and the fires of one more civilization smouldered to ashes.

The above may serve as a background upon which to sketch a plan of organized biological education. Under its influence the curves of our future perspective are rapidly changing their directions toward active conservation, giving assurance of a brighter future.

My first point is that we must make biological instruction dynamic throughout. We have "dynamics," "dynamic astronomy," "dynamic geology" and "dynamite," and when we realize the enormous forces of living nature, we are fully warranted in using the term "dynamic biology." Dynamic biology means the science of living things as forces in nature, the study of animals and plants alive and at work.

Far from being anything new and untried in adopting this viewpoint we are simply leading biology back to its ancient and honorable position at the head and origin of all human sciences. Domestication of animals and cultivation of plants, the fundamental and primitive relations of mankind to living nature, in ancient dynamic biology—the study of what the animal or plant can do, not its dead form or structure.

Even the primitive nature worships and superstitions, which probably outcropped relatively late, again show, however distorted, man's deeper sense of the overwhelming forces of life. Plagues, pestilences and diseases were looked upon as visitations of divine wrath; and in the sense that laws of nature were the laws of God, ancient interpretations were not so wide of the mark.

My second point is that throughout the entire course the active or "natural method" must prevail. This is the method which a pupil uses who is old enough to prefer to work out the solution of a problem rather than be told the answer. It need have no odor of the laboratory, nor suggest dissecting instruments or microscopes, but it is essentially the method of original research. But, while these words are ponderous, babies use the method exclusively until they can talk, and even young animals acquire by it a knowledge of nature necessary to their lives. The word "instinct," the theory that animals know things "instinctively" comes to mean very little after one has watched a young grouse chick study its "science lessons" during the first day of its life. It pecks at everything in sight—at its companion's eyes, has its eyes pecked at in turn, finds that eyes are not good to peck at, picks up the toes of its fellows and tips them over, has its own toes picked up and gets tipped over, even picks up its own toes and tips itself over and, finally learns that toes are not good to eat, pecks at bright drops of water and at moving insects and discovers that these do satisfy its need. In the day it tries literally thousands of experiments and by its close has learned the main foods of the species. This is the way a child learns the first three years.

Those high in scientific pursuits, of the cut

and dried sort (who, perhaps were never boys themselves), flout the idea that a child can discover anything worth knowing. Take the following concrete example and decide between us for yourselves.

A little girl of only eight has a pair of pet "Bob Whites." She is naturally anxious for them to rear a brood and often asks, "Why don't they lay some eggs?" She is told, July 2, that if she would feed the hen more insects, she would probably begin to lay; and she was asked to see if she could not find out how many rose slugs the bird would eat in a day. The child entered into the experiment with great glee, and, interesting to note, developed her own method at the outset, which was to count the slugs as she caught them in a tumbler and when she got one hundred, she wrote it down on a paper and emptied the tumbler before her hungry pet, waited until she saw that they were all eaten and ran to the garden for another hundred. Here are two definite questions in dynamic biology: How many rose slugs will a quail eat in a day? If she has all the insects she wants, will she produce eggs? The little child gains answers to both. At night she shows us her record—1286 rose slugs eaten in a day. Fourth of July morning she is wild with delight on finding the first egg in the nest.

The example illustrates my two points, a living thing as a force in nature and the child learning by the active method of research. Can the child ever forget the day and the lesson? Multiply now the work of a single bird by the number in a species, or by the number we might have in the species, and we find ourselves in the presence of powers and forces which could transform the face of the earth, the human values of which are beyond computation. Compared with these values all our Cripple Creeks and Klondikes are but the small change of the hour. I am wont to estimate that if as a people we could learn the biology of this one bird and be decent and civilized enough to give the species a chance to do its work in nature, it would save us in insect damage alone $500,000,000 a year. In weed-seed destruction, food value of surplus and sport, it might be worth as much more. But no; instead of learning and utilizing our living resources, we must senselessly exterminate them.

My third and last point has to do with the proper stratification of subject matter for the grades, high school and college; and while we shall have special reference to the high school stratum, we must first see this in its relations to the others.

The large result of the past 25 years of wallowing in attempts to teach all sorts of biology from the kindergarten to the university has been to demonstrate that the scientific college course does not and cannot possibly be made to fit the immature pupils of the grades and high-school. I have actually known of a high school which had fitted up its biological laboratory on the lines of good college equipment, pitching out the whole course and turning over the rooms to other uses, because college biology in the high school is such an impossible misfit. I have known the student in college who has had the subject in the high school. While some colleges have entrance requirements in biology, I have yet to find a college instructor who would not rather have a student come to him fresh, who has never heard of the subject, and not been prematurely mauled over by present attempts to give college biology in the high school.

College entrance requirements as they now exist are the greatest obstacle to the development of a rational course of high school biology. They have been set by us college men in our sleep and our examination questions are such as we give our own pupils in college. Here are some samples from my collection of such "college entrance" examination questions.

"How do you know that the protoplasm of the plant and animal cell is identical?"

"Discuss the ovule and pollen in the reproduction of plants."

"Discuss the leaves of insectivorous plants."

"Discuss respiration in plants and how to show it experimentally."

"Discuss the general path of ascending water (sap) in the stem, and a way in which this path may be shown experimentally."

"Of how many segments is each foot (of a beetle) composed."

"How many segments in the leg" (of a fly)?

"How many segments in the leg" (of Lithobius)?

"How can you homologize with one another the swimmerets of the legs and the mouth-parts" (of the crayfish)?

"What is the gill formula of the animal in hand" (crayfish)?

Are not these typical college examination questions?

True, my college associates say: "Give us a different course in the high school and we will change our entrance requirements to fit." This seems to me a weak attitude for the college to take. It practically says: "You give the college course in the high school. If you can do something better, we will accept that. At present we do not know any other of biology than the college course and are unable to give you any assistance."

So with the text-books. Every zoology, botany or biology purporting to be for secondary schools is but little less than a college-course manual, and we find them or at least a number of them, so employed. They are even so complete in all the latest theories and discussions that they are actually used for preparation by students for post-graduate university examinations. It is almost amusing in studying these texts to see, of late, how hard their authors try to strike out for something different and then roll back into the old familiar ruts.

I offer the following suggestions for what seems to me the natural and reasonable stratification of the subject. It is based on the expanding life and interests of the child himself, as he grows up in the home, takes his place in the community or becomes a citizen of the world.

Let the nature study of the grades, then, center about the child and the home. Of course these lines of interest extend beyond

the home and child but the child need not at this stage be taught relations beyond its own sphere of interest.

In preparation for active citizenship let the biology of the high school center about the life, interests, and problems of the town or city, the state and nation. Do the highest interests of the community require that its educated citizens know this or that is the question which should determine whether a topic be admitted to the high school course.

In the college the student enters the world of pure science with its universal language and its special and technical methods. Here for the first time, not the need of child or community, but the logical development of subject matter must dominate.

The nature-study point of view is to teach the child. The scientific point of view is to teach the subject. If the student cannot master the subject, he has no call to study science. This main line of cleavage is perfectly natural between educating men and making specialists, and even specialists ought to be men before they become specialists. The line of cleavage between biological nature study and technical science thus falls between the high school and college strata. If we hold to the general culture idea of the college, we might even put it between the college and university strata, but present tendencies are toward rather efficient specialization in the college.

With distinct, though coordinated, aim and scope, everything clears up. Subject matter of the courses separates, each topic to its appropriate stratum or level, each best for its own sake and purpose in its proper place, the nature study stratum, eight or nine years thick, devoted to interests vital to life of child and home; the high school stratum, only one year thick but a very hard cap stone to the looser formations below, and a seam of veritable "*vita ore*" for community and national life; the college-university stratum, pure crystal and gold and precious stones with which to build the universal temple of truth in the world.

The subject-matter which the youth of the nation should be supposed to master by the close of the high school course may best be indicated by a series of college entrance examination questions, which I wish, might replace all such as I have just read you. In fact I have had high school teachers of science tell me that they could take this page of questions and construct a practical course for themselves. What kind of a nation would we be if our young men and women, as they enter on the duties of citizenship could pass this examination. Possibly if they saw such a feast of "worthy and delightful knowledge" in store for them, they would be eager to prolong their education in the high school. Here are the questions: How is tuberculosis caused? How may it be prevented? (Substitute the names of typhoid, diphtheria, scarlet fever, smallpox, plague, malaria, pneumonia, cholera, rabies, and possibly, some diseases of animals, Texas fever, fowl and bog cholera, foul brood of bees for as many questions.)

Describe the flowers and fruit of the white pine, state when the flowers appear and the seeds are ripe and outline methods of gathering, storing and planting the seed. (Substitute the names of about thirty of our more important forest trees for as many questions.)

What are the problems of forests in relation to climate, regulation of stream flow and retention of soil in your state? In the United States?

How would you plant and care for a rose, a lily, a grapevine, an apple tree? (Substitute the names of about fifty common garden plants, shrubs, trees and vines for as many questions.)

What weeds are outlawed by your state?

Discuss the poisonous plants of your locality and methods of dealing with them.

What native plants are in danger of extermination and what measures should be adopted to prevent this?

Describe the life history, natural enemies and methods of dealing with the codling moth. (Substitute the names of about 150 of our most important insects for as many questions.)

Discuss the food and economic status of the robin. (Substitute the names of about 100 of our more important birds for as many questions.)

Outline the laws for the protection of game and insectivorous birds in your state.

What species of game birds—grouse, wild turkey, waterfowl, wild pigeons, plover, etc., are in danger of extinction in your state? How may this be prevented?

What animal pests—rats, gophers, prairie dogs, etc.—require to be held in check or exterminated in your locality? How may this best be effected?

Describe the food and habits of the common toad. (Substitute the names of ten common frogs, tree frogs and salamanders and ten common reptiles for as many questions.)

Describe the black knot and methods of dealing with it. (Substitute the names of about 40 common parasitic fungi—moulds, blights, rusts and smuts—for as many questions.)

With what fresh-water fishes are you familiar? Give spawning habits and season of the brook trout (or any other of about 20 species).

Name and describe, giving habitat and season, any one of about 40 of the more important mushrooms, poisonous and edible.

Name the ferns with which you are familiar.

Define the functions of leaves, stems and roots.

Name the parts of an apple blossom and tell the function each part performs.

Of course I do not mean that so many types could be taught in a single year—100 birds, 150 insects, etc., most of the subject matter must have been gone over in the nature study of the grades. The high school course need only round out, fill in gaps, complete and especially supply the civic and national bearings and points of view. Thus, as stated above, the line of cleavage between the nature-study and scientific point of view must fall between the high school and the college.

Since the school year is arranged as it is, it will be necessary to start a great many lines of work in the early fall with the view of securing material for use during the winter. In

every possible case this should be collected by the class—to give practice in field work and at least a glimpse of the various forms in their natural environment. It will also help knit the course into a connected and consistent whole.

In order to be able to look ahead and collect intelligently, and at the same time to organize and plan the work of the whole year, draw off into a convenient field book the names of all the types—insects, birds, trees, etc.—to be studied. Page the book and make an alphabetical index at the back. It may also be divided into chapters according to subject matter. Then write on the front page: "I promise myself to keep my eyes and ears open and let no opportunity slip to learn what all the animals and plants named in this book are doing in the world."

Leave plenty of space for notes between topics and provide sheets of thin paper to insert where necessary. A record at end of year may read about as folows.

Codling moth.—Sept. 21. Examined 100 apples and found 92 worm eaten. Found 15 larvæ in the apples. The rest had completed their growth and gone. Where did they go?

Sept. 22. In one hour's search scraping apple bark, found 163 larvæ under the bark scales in their cocoons. They must have gone there when they left the apples.

Nov. 28. Observed a downy woodpecker at work in apple tree. From 8 to 8-15 saw him drill into five bark scales and remove the larvæ. Noted locations and when he left the tree, secured the punctured scales for my collection. At this rate how many might a woodpecker destroy in a year? Tied lumps of suet and marrow bones in the apple trees to attract woodpeckers to the orchard.

Dec. 6. Refer to Lab. note book, p. 41.

Apr. 12. Scraped apple bark for larvæ, found only 8 in one hour; but have observed the woodpeckers working on the trees all winter and counted 179 punctured bark scales, from which the larvæ had been removed. All those found were still in the larval stage.

May 15. Apple trees in bloom. Hunted half hour. Found 9 larvæ and 2 pupæ. See Lab. note book, p. 42.

June 11. Apples the size of marbles. 8 p. m. hung a lantern in a tree where apples were thickest. Caught a moth in act of laying an egg on an apple. As I raised my net to catch another, a bat flitted by and snapped it. Tried to catch bat, but he was too quick for me.

These field books should thus present a living account of practically every observation the pupil is able to make during the year. This is to represent the work done in the main laboratory—the garden and orchard, street and roadside, pastures, fields and woods, streams, lakes, hills and swamps. Thousands of interesting things are happening out there all the while, and it is there the student must go to learn his lessons. With definite assignments as to what to observe and study, most of this field-work should be done singly, or in small groups of two or three, the results of this individual problem-working to be recited on and discussed in the class.

I am aware that teachers, wedded to their "easy-to-administer" courses, will say: "*simply impossible.*" "Solid blocks of students, the majority indifferent, simply impossible."

Why are the majority indifferent? Is it not Milton's problem of "sow thistles and brambles"? Is it not possible that we find a science culture "worthy and delightful" enough to enlist the finest enthusiasm of our young men and women? I positively know we can.

Take a single concrete example as it happened in one of the Worcester high schools. The botany class were studying fungi, each member having been assigned a type to work up and report upon. One boy asked the teacher to be allowed to take the black knot, instead of the fungus assigned him. She told him frankly that she knew nothing about it, but would be glad if he would learn all he could and give them all the benefit. He came to my library at the University with a handful of postal cards and going through the late volumes of the Experiment Station Record, copied all the titles of articles on the black knot, addressed and mailed the cards and within a week, had practically all the recent bulletins on the subject. He then went to work, hunted through the woods and collected the fungus on the native wild plums and cherries and made a survey of the city to form an intelligent estimate of the damage caused to cultivated fruits. He mounted a typical series of specimens in a glass case, drew wall charts and finally presented his results on the life history, distribution and treatment of the black knot in a carefully prepared lecture which occupied an entire period of the class. One of his classmates happened to be a reporter on a local daily and presented the subject to the public in a well-written article of about two columns, and that fall there was such a cleaning up of black knot in Worcester as I had not seen in fourteen years before.

This account is not complete without adding that the lot next to this young man's home contained a plum orchard in the last stages of destruction with black knot. It was a menace to his own trees and to all in the neighborhood. The people renting the place knew and cared nothing about the trees; and he finally drew up an agreement in duplicate, and got it signed by the owner, to the effect that he should care for the trees for half the product. He cleaned up the trees and his father has since bought the lot. He has raised quantities of excellent fruit, and points with pride to a dozen or more prizes, taken for plums at various fairs and horticultural exhibits. He is now spending his third year at the university and finishing his preparation to teach biology. I asked him recently: "what do you think about that work you did in high school on the black knot?" He replied: "It exactly fitted my particular bent and on that account I think I got more real good out of it than from any other one thing in my high school course."

With the billions of money, and the labor, suffering and bereavement sacrificed to preventable disease, the hundred of millions more lost in insect damage and the insidious attacks of fungi upon our grain fields, orchards and gardens, and the millions, never estimated, destroyed yearly by rats, English sparrows and

other vermin, we see a flood of vital wreckage streaming through our dykes. There is just one thing to do about it. Organize our biological education so that every citizen shall know a break in the dyke the moment he sees it. As a nation we are a mob of Mrs. Partingtons sweeping brine all over one another. As a people we do not know enough practical biology to do our decent, common sense duty, each by his neighbor. We are spitting and coughing and dumping germs which cause disease; destroying forests which cause both drouth and flood, and rearing insects, fungi and vermin which distribute damage to all around.

The education to prevent these things must be universal: for one ignorant person can vitiate the best efforts of a whole community.

The high school is booming, growing, reaching out in every direction, the most vitally growing point in our educational system. It is crying out for a reasonable course in the laws and forces of life. The time is certainly ripe for a course in civic biology which shall be most vital to individual, community and nation alike.

To learn some things makes living a delight; to learn others makes of life a burden. Some things once learned are remembered with pleasure for life; other things it is a pleasure to forget. Man is the only animal that compels its offspring to learn for the pure torment of learning. An amount of this may be needed to toughen the offspring. But should we not so far as practicable endeavor to learn for life; and is there not a shade of immorality in forcing our youth to learn so much which they are so soon glad to forget?

WEDNESDAY MORNING.

THE meeting was called to order in the assembly room of the Department of Public Instruction. The first paper on the morning programme was by Prof. T. J. George, principal of the Carnegie High School, in answer to the questions, "What are the Reasonable Requirements for Admission to the High School? How Shall These be Enforced?"

REASONABLE REQUIREMENTS FOR ADMISSION, AND HOW ENFORCED?

At a large convention of school directors not long since the high school was severely criticised (1) because the standard of admission thereto is not high enough to insure ability on the part of the child to do satisfactorily the required work of the high school, and (2) that the character of instruction therein is not such as to fit the boy or the girl for the active duties of life or for good citizenship. While the writer of this paper cannot endorse in full the criticisms nor even the judgment of these judicial fathers, yet the fact remains that the gap between the elementary and the secondary school is too wide and their criticisms of inefficiency of *both* are well founded.

It must be admitted that these two grades of our pubilc school system are so closely united that the efficiency of the one depends upon that of the other. Not very long since a Superintendent of one of our large elementary schools made the remark that if you increase the efficiency of the high school you must increase the standard of efficiency for admission; and so it is that a pre-requisite to a good high school is a good elementary school, and *vice versa*. And while I must not minimize the importance of a high school education to every child of the commonwealth, yet if that high school training is not of a high character the results are detrimental to intellectual development and to good citizenship which is the central purpose of the public school, and which the state by virtue of the taxation of its citizens has a right to demand.

And while the university, the college, the high school and the elementary all contribute to the making of citizenship, yet the elementary reaches the greatest number, lays the foundation upon which the higher schools build, and must lead the list in civic training. But in the making of citizenship the child must be trained to think intelligently, and as the child cannot think until it has something to think about, so it must have time to grapple with one subject before another is thrust upon it else the whole becomes chaos and confusion. And so we are constrained to believe that one of the hindrances to the development of clear thinking and civic righteousness is the lack of time because of an overcrowded curriculum. And so many intelligent educators are crying out in their despair that their children are overloaded; that we are attempting to do in seven or eight years what the average child cannot satisfactorily accomplish in less than nine or ten.

Our forefathers, wise in their day, seemed to fully realize the importance of that old adage, "If a thing is worth doing at all, it is worth doing well," and planned a course of study including reading, spelling, writing, history, geography, grammar and arithmetic, the essentials of good scholarship and good citizenship. These were zealously and righteously pursued even to the age of eighteen and twenty years, and as a result a few vital things were well learned, and in consequence the product of the common school was strong, well-poised men and women.

To-day our course of study has been greatly extended, and I may add enriched, by the addition of physiology, elementary algebra, civics, and in many places by such cultural studies as music, drawing, manual training, and domestic science, the importance of which in the making of good citizenship cannot be overlooked. Even the subject matter of history and geography has been many times multiplied. But with all this accumulation of *material* the time for completion has not been lengthened but on the contrary has been materially shortened, and the boy of to-day is expected to have accomplished more at the age of thirteen and fourteen than he did in the days of our fathers at the age of eighteen and twenty. Granting that the length of term has been increased, and that more efficient teaching is done, yet the fact remains that the course is

too heavy for eight years and too difficult for the immature child of thirteen and fourteen years. Undue haste must be made in promoting from one grade to another. The child must be impressed with the feeling that it is quantity rather than quality of work that is demanded, and in consequence we deceive the parent, rob the child of his proper development, and thwart the great purpose of the public school.

I grant that many parents are a party to this undue haste, and even demand that their children be pushed through the grades, into the high school and out into life regardless of fitness. They seem to have no sincere desire for the education of their offspring, but only for the emoluments that might come from having graduated from such an institution. They would have them educated with little or no effort on the child's part, carried, as it were, to educational skies "on flowery beds of ease." But this is not true of all parents. The true parent wants his child to acquire correct habits—habits of accuracy, system, neatness—the power of thought and expression, and he knows that this cannot be accomplished when the child is urged beyond his ability.

Shall we then, who are directing the educational interests of this commonwealth listen to the demands of the unthinking, so that the fruits of our labors shall be, as a prominent educator recently said, " a sham, not culture; incapacity, not power, moral emptiness not character and civic integrity"; or shall we listen to those who think and desire that their children shall go not only through the high school, and the college, but that the high school and the college shall go through them? Shall the fruit of our labor be educational "shoddy" or educational growth? Shall it be a smattering of many things or a mastery of a few?

But you ask, How shall we remedy present conditions? I answer, By dividing the present course into eight or nine years. Personally I am persuaded that the present course should be divided into a nine-year course so arranged that the average boy could complete it in eight years, or an eight-year course with certain definite eliminations, such eliminations to be taught in the high school, if taught at all.

Years ago, President Eliot, of Harvard, started the movement of shortening and enriching the course of the elementary school. The discussion of the question is still current but the present outlook indicates that something must be done. We believe the time is ripe for some definite action, and that the school men of the state should take the initiative in revising the elementary course and bridging the gap between the elementary and the high school.

The subjects added to the curriculum in recent years because of their cultural and practical value should doubtless be retained, but this shortening of the course should come through eliminations from the older studies. By a careful and intelligent revision of the course such eliminations might be made without weakening the course or lessening the pupil's ability to do academic or high school work through the lack of wholesome, mental effort. On the contrary, we believe the course might be materially strengthened by such eliminations and the boy better qualified to do secondary work by virtue of the fact that more time may be given to getting a few vital subjects well, and at the same time acquiring better habits of study—for it is known that the average fourteen-year-old boy knows little or nothing about study under the present conditions. The course of study should be arranged so as not to demand of the average pupil more than he can master under wise leadership. It should provide such a logical line of development that each succeeding step shall have a thorough foundation on which to rest. It should be so arranged whether in the elementary or in the high school that the boy may feel that he is getting something that is of real value to him; something that is going to fit him for the active duties of life. You may or may not agree with me when I affirm that the proportion of boys in either of these schools is the surest index of its real worth.

Boys of the grammar grade and high school age are appealed to by the thing that has real sturdy worth. If he feels that he is getting that which is worthy of his effort, and has real value in it *to him*, he will remain in school, but if he feels he is not getting that which calls forth his best powers and which will be of no practical value to him he quits. I am fully persuaded in my own mind that the two chief causes of boys leaving school are improperly arranged courses and their inability to master their work through misdirected teaching or over-hasty promotions.

I said in the beginning of this paper that the gap between the elementary and the secondary school is too wide and in consequence a large proportion of those entering the high school are lost to it during their Freshman year. They cannot adjust themselves to the new conditions. The branches of study are new, and require patient effort and thought—a power which the boy has not acquired to any considerable extent because of undue haste in advancing from subject to subject. And I am compelled to believe that, if an eight-year course is to be continued below the high school, many partial and indeed wholesale eliminations from our course should be made.

Not long since I had access to the written opinion of sixty-four superintendents and supervising principals of the largest city and borough schools in the United States, and I am convinced from the variance of answers to the questionaire, that as school men we have no substantial basis of fitness in fact upon which to found a correct opinion.

For example, the answers to the question, "What proportion of pupils at the age of fourteen are prepared to do high school work?" ranged from 3 per cent.—and even this was considered high—to 100 per cent. To the question, "Is the present elementary eight-year course over-crowded?" the answers ranged from an emphatic Yes to a positive No, with opinions on other leading questions just as much at variance. Inconsistency of answers proves either absolute ignorance of the situation in their own schools, or abso-

lute inability to make their judgment and their practice co-ordinate.

To the question, "What subjects should be omitted in the common public school?" the learned doctors of pedagogy disagreed just as emphatically. What one considers of little importance to the growth and intellectual development of the child, another considers a fundamental subject and gives it an important place in the curriculum, while yet another just as confidently urges that no subject can be safely omitted from the present course of study. And if I were to point out to this learned body of educators just what I consider as the proper qualifications for entrance to the high school I would in all probability have few followers. Each has his own opinion and no opinion or argument of mine could dissuade him from it. This one assertion, however, I venture, with the hope that we may find a common basis, namely, that every boy on entering the high school should be able to read intelligently, to get thought from the printed page, and to have acquired some degree of skill and power in reasoning. Having these "tools" to work with, his mastery of high school studies becomes more a matter of application on the part of the boy, and the wisdom of the teacher and parent in directing his course, than upon his ability to pass the examinations in any number of required subjects. Written examinations have a proper place—though even here some of us dissent—and may, judiciously used, be of great educational value to the child and a sign-board to the superintendent. But as an exclusive test for promotion they are often detrimental to the best interests of the child. They force the activity of the teacher into the narrow channel of memory work, at the expense of judgment and skill.

We believe much of the evil that tends to thwart the real purpose of the common school system might be averted by a course of study prepared by the state, both for the elementary and for the high school with reasonable elective privileges. It is the purpose of the state to make good citizens of all, and the state should direct the course of training to be pursued in the making of citizenship.

This would do away with fake courses, with haphazard eliminations, and loss of time to the floating children in adjusting themselves so frequently to a new course of study. Elimination as now practiced has no uniformity, and is even declared by some educators to be illegal.

For example, one course of study eliminates foreign exchange in teaching Arithmetic, another certain parts of mensuration; but the state demands that arithmetic be taught. What power other than that of the state has the legal right to say that either of these subjects shall be eliminated from our present course of study?

The subject was further discussed by Supt. F. E. Downes, of Harrisburg.

WHAT ARE THE REASONABLE REQUIREMENTS?

In the discussion of this question I find myself again astride of an old hobby, travelling on a somewhat lonesome road. If there is one thing more than any other of which I am firmly convinced, it is that educators to-day are putting the "cart before the horse" in the matter of educational requirements for advancement in grade. It matters not into what artificial division of a pupil's educational career he is to be advanced, whether into the college from the high school, the high school from the grammar school, the grammar school from the primary school, or into any higher grade from the next lower, the questions involved are the same. The first requirement for promotion should be the pupil's ability to be promoted, and not merely the fact of his having covered a fixed amount of subject-matter mechanically in the school room, or of his having spent a prescribed number of weeks, months, or years, in the study of any particular subject. I confess I am guilty with practically all, if, indeed, not quite all, school men who are forced by the circumstances of the times to conform to certain arbitrary standards which are fixed higher up, even, than the high school, which fetter us in our work, from the bottom to the top and enslave us to narrow and unpedagogical standards and methods.

What matters it whether a child has read the fourth reader or not if he can read the fifth equally well? Why should he be compelled to spend two years in common and decimal fractions if he can master them in one? Why spend two or three years on technical grammar if he can speak and write the English language correctly? What difference does it make whether he can name all the reptiles of Central Africa, or even all the tribes of Patagonia, provided he has a practical knowledge of the important political and commercial geography of his own country? Our standards are wrong, and these have produced wrong teaching. Strict grade classification is partly responsible for this condition of affairs, but arbitrary mechanical standards and absurd exactions from above are primarily at fault. The college makes impossible demands of the high school, and the high school, in turn, as a consequence of its humble submission to the educational tyranny of the college, is forced to plan distorted courses of study and make unreasonable demands upon the grades below.

In an excellent article by Prof. N. A. Harvey, of Michigan, published in the School Board Journal of December, 1908, entitled, "The Relation of the Grammar School to the High School," the writer enunciates many points with which I am in entire accord. Among other things he says, "The high school teacher many times thinks that the pupils ought to know some things which perhaps once they did know, but which it is very natural and perfectly consistent with good teaching that now they do not know. The thing that is best for the child is the thing that must be taught in the grammar grades. It is as pernicious for the high school to dominate the grammar grade course of study as it is for the university to dominate that of the high school. The child is the one to be considered, and the high school and the university must adjust their demands

to the best interests of the child at any stage of its career."

It is difficult to correct this vicious growth of a quarter of a century, but it is gratifying to note encouraging signs of self-assertion on the part of the public schools. We are beginning—in the elementary grades, at least—to teach for the immediate and future interests of the child, and not according to the impractical and unnatural self-made standards of higher education. It is more difficult, perhaps, for the high school to free itself from its fetters, but, even here, a spirit of independence is gradually dawning, and our high schools are beginning to adapt their courses of study to life conditions.

My answer to the question, "What are the reasonable requirements for admission into the high school?" will naturally be affected by my personal views upon this general educational problem. Good habits of study and an appropriate attitude toward school work I regard equally as important as a thorough knowledge of the subject-matter prescribed for and essential to promotion. I hold that the high school has a right to expect in every pupil who comes to it from the grammar school (1) a reasonable habit of accuracy, (2) the habit of industry, or spirit of work, (3) the power of concentration, (4) the power of discrimination, or the ability to distinguish the essential from the non-essential, (5) systematization in effort, and (6) a healthy, growing sense of honor. These are basic requisites and the subject-matter of the ordinary school curriculum is simply the medium through which they are to be developed. They represent the fundamental purposes of all our complex educational machinery and are the true intellectual and ethical ends to be secured. Only a comparatively small proportion of the pupils of our public schools ever reach the high school, so that we must concern ourselves with the future of the vast majority, as well as with our high school embryos. The business of the elementary school should be to give to every pupil a working capital—a tangible, usable, educational asset—whether he is going to take it with him into life through the avenue of the high school and, perhaps, the college and university, or whether he is going to take it with him more directly into the actual work-a-day world.

The point I have been attempting to bring out is that, in our elementary schools, life conditions and life needs should be the prime consideration, rather than high school conditions and high school needs. The latter should be regarded as incidental. The same argument might be extended to apply also to the relation which should exist between the high school and the college; and if the lower school, whether it is the grammar or the high school, succeeds in thus performing its true function, the continuation school need have no fear for itself. The latter should make it its business to take up the work where it has been left off and proceed along the same worthy lines.

From what has been stated I hope you will not infer that I would leave the question of subject-matter entirely out of consideration, or even that it should not be carefully selected. The true ends to be secured must be attained through the medium of a carefully selected course of study. Generally speaking, our present elementary courses of study are well adapted to the accomplishment of the desired results, if our educational ideals are correct and our methods of teaching sound.

In answering the subject-matter side of the question under discussion, we shall exclude from our consideration most of the so-called culture studies, such as music, drawing, nature study, etc., not as being unimportant, but as comprising a class of studies usually designated as "non-essentials." Possibly all of the more recent acquisitions of the school curriculum might be left out of consideration in answering the main question, namely, "What has the high school a right to expect in every pupil who comes to it from the grammar school?" I believe these so-called non-essentials should be taught in every elementary school, but I do not believe the same stress need be laid upon them as upon other subjects, for they do not add so materially as other subjects to what we have termed "working capital." I do not think they should be included in the high school entrance requirements, nor is their pursuit absolutely necessary to secure fundamental educational ends.

It seems to me that the following might be considered reasonable subject requirements which the high school should exact for entrance, it being of course assumed that thoroughness has been the watchword in the schools below and that the watchword has been effective:

1. Arithmetic.—The fundamental operations, business forms, common and decimal fractions, denominate numbers, mensuration, involution, square root, percentage, and interest, including most of the many and varied chapters and topics involving the application of these subjects.

2. Language.—Comprising reading, spelling, punctuation, letter writing, composition, and technical English grammar, the test of proficiency being the pupil's ability to read intelligently and to speak and write the English language reasonably well.

3. Geography.—The races of mankind and their distribution; their industrial and commercial organizations and occupations; social institutions; the general geography of the world; the more specific geography of the important nations of the earth, comprising their principal physical features, character of government, political importance, natural resources, industrial pursuits, commerce, etc.; and, in particular, the complex life geography of our own country.

4. History.—A limited knowledge of the main facts in American history, such as might be obtained by the proper study of any of the standard elementary text-books used in our grammar schools.

There are a number of other subjects which we might be tempted to add to these, but it is doubtful whether the group of essential subject requirements for admission to the high school should be much further enlarged.

As to how these expectations of the high

school may be realized we have no new dogma. I know of no way of enforcing the possession of all of what we have termed basic requisites. These certainly should be classed as reasonable expectations for their absence generally portends failure; but how to enforce some of them is a difficult question. The subject requirements, of course, can be enforced with the aid of proper supervision. Even here, however, the problem, in the last analysis, falls back on the teacher. Primarily the teacher must possess the same acquirements, in an intensified form, as are to be expected of his pupil products. There must be less teaching for examinations and higher schools and more teaching for life. The teaching must be intensive and thorough. There should be, on the part of the teacher, a complete knowledge of child life and a thorough appreciation of true educational ends. There must be increasing concern to develop power and less ambition to cover ground. Every day's teaching in the elementary school, including the grammar school, should be inspired primarily by the day's needs, the child's needs, and the needs of society, and not by the desire to prepare for entrance to the high school.

The next paper was by Dr. E. W. Little, of the Regent's office, Albany, New York, on "The Constants that all the Colleges May Reasonably Exact for Admission: How to be Agreed upon and How Enforced."

CONSTANTS THAT COLLEGES MAY EXACT.

There is a proverb regarding fools and angels which needs no quotation. Any application of that proverb to your speaker would be justified; for he who permits himself to prophesy must expect the prophet's reward. To those who consider the high school a junior university with a go-as-you-please elective course, this paper can make no appeal; it is rather for those who believe that the high school has a definite function in a scheme of national education and a work before it that no other school can do.

Since tax-supported high schools were organized, they have been under two vexatious and contradictory tyrannies, the one that of an ill-formed and uninformed public opinion which demanded useful, practical subjects and would train up a generation of dollar-diggers; the other the tyranny of college entrance requirements, always troublesome on account of variety, and of late years unreasonable in their demands on mental immaturity. So busy have high school principals been in avoiding Scylla and Charybdis, that they have had no time to chart a course that would land their pupils at destined ports in the shortest time. By sheer weight of authority the influence of the college has been dominant, and what has been the result? Courses of study have been planned to take care of one-third of the secondary pupils destined for college or professional schools and to feed at second table the two-thirds who must finish schooling in the high school.

This problem of constants for high schools involves three important factors, the historical, the psychologic and the sociologic. Its proper presentation would require a treatise and the limits of this paper demand that only a few values frequently overlooked be noted. First of all we must clearly as may be discover the difference in function between the elementary and secondary school. Many of our difficulties in the high school are directly due to the failure of higher institutions to differentiate between college and university work. In attempting to prepare for college, we have really been called upon to prepare for the university. So too the elementary school has constantly been injured and over-burdened by the failure of educators to discriminate between elementary and secondary aims.

The mentality of childhood is largely memory. Childhood is therefore the time to acquire that symbolic knowledge needed by civilized man. It is the best time to learn to read, to write and to form number combinations; yet these memory burdens should be so carefully taken on that sense-perceptions will not be blunted, imagination will not be dwarfed, and the physical activities will be hindered as little as possible. Considered from this point of view, the elementary school is a school of integration. It must seek a product more or less uniform. It must prepare the pupil to assimilate the inherited experience of the race. If this were all that the elementary school might do, it would indeed, be too narrowly walled in; but the securing of this symbolic knowledge is what the high school must insist upon as a proper foundation for admission and, furthermore, it is what the public demands and, for a long time, will demand. And this work of the elementary school should be accomplished in a maximum of six school years. It often may be done in four or even in three years. From this time on, the child ought to be "reading to learn, not learning to read," to be cipher-ing not learning to cipher, to be spelling, not learning to spell, to be writing to gain power of expression not learning to write. Our factory system of education that treats a child as if he were a block of wood until it make a block-head of him persists in changing his teachers from eight to twenty-four times and keeps him so busy learning his teachers that he has small time to learn anything else. In many of the rural schools, children never learn to read with such readiness that reading becomes a pleasure or a satisfaction.

Beginning with the dawn of adolescence, the purpose of the high school as distinguished from that of the elementary school should be differentiation; for the high school must send the farmer to his plow, the artisan to his shop, the trader to his mart, the scholar to college. It should lead the pupil a little way into all the major avenues of knowledge. No sensible person thinks that the high school should abruptly discontinue the work of the elementary school or convert itself into a miniature university; but the function of differentiation is clearly indicated in the nature of the work that the high school must do.

It might seem obvious to anyone but that college professor whose sense of the uncommon is so keen that his common sense is atrophied or to that college president so busy stalk-

ing millionaires that he might as well be in Africa hunting elephants—it might seem obvious that the constants that all colleges may reasonably exact for admission should be chosen from those constants which the high school, from its nature, ought to give. If such a plan were followed, and if power to think instead of content of information were exacted for college entrance, high schools would be relieved of needless burdens and elevated in spirit and performance. It is probable that the college too would be benefited if it opened its doors wider to the thinker and the doer and closed them more resolutely against all who have purchased education by the yard. If the high school is to be compelled to offer any special preparation for college (and this is a very big "if") such special preparation should require at most not more than one year and would preferably not consist of reviews.

Before any notable advance can be made, high school principals, acting in the various states and through the secondary department of the National Educational Association, should agree on the constants that high schools should offer. They should call to their assistance those who are most competent to assist, whether they be college presidents and professors, superintendents or grammar school teachers; but if any decisions are to be made by majority vote, the majority should consist of high school principals of well-proved thoughtfulness and ability. The decisions of this national committee should be so deliberate and painstaking as to commend themselves to public and pedagogue alike. They should carry such weight of authority and reason, that the most prosperous college in America might disregard them only at its peril. Where public opinion rules, some one must make public opinion. If we wait for colleges to make public opinion that is valuable for high schools, we shall wait long.

But what are the constants that high schools should offer? If nothing but blood will appease the audience, accept the sacrifice.

English in every year is essential to supply ideals, to train in interpreting and in expressing thought and mayhap to tempt thinking for one's self. It may well be studied in differentiated classes during the later years of the course. The English teacher should aim to secure the enjoyment of English classics and to teach the use of books. In expression the purpose should be interpretive reading of literature not more difficult than Shakespeare's plays and the proper development of the topic sentence. Literary criticism and advanced rhetoric may well be deferred until the pupil shall have had time to acquire literary capital. The English called for should be constructive rather than destructive. For high school students it is doubtful if the Sahara of analytical rhetoric is any more productive than the Arizona of analytic grammar. It were better to teach no English at all than to create a dislike for it, for the test of the efficiency of any teaching is the amount of desire imparted for more knowledge or more power. Judged by this test the teaching of English, whether in high school or college, is weak.

The saying that "he knows no language who knows only his own" has acquired the force of a proverb to educators. It is right that even the smallest high school should offer one foreign language. It is proper that larger high schools offer as many foreign languages as the local community needs, not as many as college catalogues demand. In blind subservience to European traditions, our high school courses have been overloaded with linguistics. The study of modern languages is very practical in Europe and would be in the United States if each state or each group of states spoke a different tongue. American seems good enough to the boy reared in the United States, no matter what his parentage; and no amount of artificial school requirement will foster in him a lively interest in foreign languages.

If a high school can teach but one foreign language, my personal preference would be for Latin, because it is more closely related to other high school studies, because it is basic not only for English but for all the Romance tongues; because it is a highly inflected language and therefore widely different from our own; and especially because it is just difficult enough to call for the greatest amount of self-activity in pupils of high school age.

Greek, the most beautiful language ever spoken, is, so far as public high schools are concerned, dead and being prepared for burial. That transfusion of blood at the Ann Arbor Conference hastened if it did not cause its decease. Latin, valuable as it is, will speedily go the way of Greek, unless Latin teachers shake off classic lethargy and teach it as if it were living, as indeed it is in its numerous offspring.

When only one modern foreign language can be taught, German, by the richness of its content and its relation to English seems to be indicated for most localities.

Science is a language we must all speak in these days of bacilli, bacteria, electricity, x-rays, gas engines, and flying machines. Science is just as important for girls as for boys. Yet how many girls willingly study physics or chemistry in the way that colleges have decreed. Sciences as taught in our high schools are practically valueless for ninety per cent. of the pupils; yet biology, chemistry and physics lie so close to every one's life, health and happiness that any school which attempts to train for environment, should regard them as constants. The college or the advanced high school may properly train its students to become laboratory assistants for university-professors; but the ordinary high school has little call to such service. Science as applied to agriculture, domestic economy and ordinary mechanics is what high school students need.

It seems to be generally agreed among high schools that elementary algebra and plane geometry should be regarded as constants. Without throwing stones at these idols it may be pertinent to ask why—if ninety-five per cent. of those who enter business fail sooner or later, if our rural population is yearly growing poorer because it fails to understand the first principles or the importance of farm records, if possibly ninety-nine per cent. of our households fail to get value received because the

women who spend the money balance their accounts like the young bride who "received $100, spent it all"—why should book-keeping be crowded out to make room for the binomial theorem and the "*pons asinorum*." Another thought regarding these time-honored mathematical constants seems pertinent. Every year thousands of worthy girls are prevented from high school graduation and are turned away from collegiate training, because they fail to master the intricacies of plane-geometry. If school or college curricula were constructed with any reference to well-known sex peculiarities, why might not artistic skill or manual dexterity be accepted in place of the hated mathematics?

In history too we are poor, miserable sinners. We have demanded too much of immaturity. We have taught history intensively before it has been taught extensively. General history has been forced out and special histories forced in. Recently the American Historical Association prepared a syllabus of history for the grades, that would be admirable for the early years of a high school but which promises to be as unsatisfactory for the grades as present history courses are for high schools. History teachers are generally unaware how far they have taught words instead of ideas. The writer was astonished to find last year, that in his own state nearly one-third of the students of English history possessed on clear idea of the difference between the processes of spinning and weaving. As heirs of the past, as citizens of a republic, our children should know first of all, what great nations and great men have done wisely or unwisely; what great movements in ancient or modern times have sent their waves to our shores. General history, largely in biographic form as being more concrete, would seem to be indicated for the earlier years of the high school. Again, as the only foundation on which tax-supported high schools rest, if we deny socialism, is that the public welfare requires educated citizens, an enlightened patriotism demands that no pupil receive a high school diploma who has not given serious attention to the political and civic history of the United States. If general history and United States history are not proper constants for every high school, we may as well drop all history and teach subjects more easily assimilated.

Manual and domestic training certainly should be constants in every high school and to these physical training should be added as soon as the public can be induced to add a competent physician to the high school faculty; but these subjects are late comers in the high school. Their proper status and scope has never been determined. Certainly, not at present, perhaps never, should they be accepted for college entrance. There seems though, no equally valid reason for refusing recognition to music and drawing. The language of line and tone are quite as important in education as French and German, and to many will be a hundredfold more useful in life. Are not we poor pedagogues, high and low, too prone to worship Minerva and forget the other gods? Do we not assume too often that it is our peculiar business to exalt reason over the emotions? In neglecting to train the emotional nature, do we not degrade it? If this world were really ruled by reason (our reason) it might be such a sorry place to live in that we should be glad to leave it at the first possible moment. Really it does us good to reflect that the greater part of our own actions are not controlled by reason at all but by prejudice, custom or habit. Would we not make fewer mistakes in discipline, if we valued the emotional nature more highly? Wouldn't we improve our curricula if we gave more attention to those subjects that afford emotional training?

I am well aware that the ideas presented will seem to many to undervalue the ability of high school students. So they would have appeared to me ten years ago; but an experience of eleven years in visiting schools of all grades has convinced me that our whole educational system somewhat resembles Æsop's frog that was trying to attain the size of an ox.

In refusing to regard the high school as wholly or mainly a preparatory school for college and in claiming for it a distinct purpose of its own, we shall not degrade the school, nor lower its ideals. In relating the high school more closely to its environment and in making it serve local needs we shall vitalize the school and need not to debase it. When the high school takes the youth to the mountain top and shows him all the great realms of knowledge and achievement, when it inspires him to seek where he may best do his life's service, minding not overmuch pecuniary returns, it will attain a dignity which, until now, it has seldom achieved.

REMARKS OF PROF. CHARLES HEYL.

In discussing the paper just read Prof. Charles Heyl, of the Southern High and Manual Training School, Philadelphia, spoke much as follows:

The able presentation of the subject that has been given us is one that commands, in the main, my hearty sympathy. I fully agree with the speaker in his expression of the importance of making the college entrance requirements stand for power rather than for information. Viewed in this light our subject takes on a second phase which may not be ignored. Not only must we consider what the college may reasonably exact of the high school, but also what the high school has a right to expect the college to accept.

As has just been pointed out, the subjects should be selected from among those that the high school ought to give. Among such subjects there are many now taking very high rank, whose value is almost entirely ignored by our colleges in comparison with the stress laid upon the traditional constants. I refer to those which have become known as the vocational studies.

I use this term because it is the best I know, although there is much that is unsatisfactory in its present use in this discussion, in so much as it recalls the hoary antithesis with the so-called "liberal" studies.

These vocational studies, forming such a large and vitally organic part of the curricula of our modern commercial and manual training high schools, are distinctly to be found within the borders of the ground that the high school ought to cover. The refusal of the colleges to recognize achievement in these branches places a ban of class distinction upon them which is unfair, undemocratic and un-American.

It is distinctly and primarily the business of the high school to fit its students for the duties of life. One of the most important of these is the duty of self-development. It is the duty of every individual to add to his value by gaining all the training and education possible, first of all along the broadest and most truly liberal lines and then along the special lines for which he is best adapted.

The high school graduate who has devoted much of his time and energy to vocational studies, fitting himself to enter upon the duties of life, should not find the gates of the college closed against him, to be opened, if at all, only grudgingly and after much strenuous special effort on his part for admission. In maintaining their present attitude toward the vocational studies the majority of our colleges are virtually upholding the ancient and out-dated educational ideal of the life of scholarly leisure. That is all wrong now. We grant that the work along vocational lines may easily be very narrow, but it may also be infinitely broad. The broad and not the narrow education is the aim of the high school and hence no low standard of requirement is asked for, but such a standard as will be in keeping with the truly liberal character of the work.

The truth of the speaker's statement as to the vast co-operation and deliberation and authority necessary to accomplish any thing along the line of radical alterations in the expressed ideal of the existing college entrance requirements is fully recognized. I do not wish to seem revolutionary, but I do feel most strongly that this effort on behalf of the due recognition of our vocational studies should not be discontinued because of conservative opposition. It is not a new effort. Much has already been written and said upon the subject by both sides. The Sixth Year-Book of the National Society for the Scientific Study of Education is devoted to a splendid presentation of the question. The present development of our secondary schools calls imperatively for a continuance of the effort and for progress. In accordance, then, with our need and with the wise suggestion made by Dr. Lyttle I beg leave to present to the meeting the following resolution, looking toward the carrying on of this effort.

Resolved: That a Standing Committee on High School Courses of Study and College Entrance Requirements be appointed, constituted according to the discretion of the President, to form a part of the working force of the High School Department of the Pennsylvania State Educational Association.

Prof. Heyl's motion was carried unanimously.

The report of the Committee on Resolutions was presented by Mr. Hosterman and after some discussion by Messrs. Dickson and Brooks was unanimously adopted as follows:

RESOLUTIONS.

The Committee on Resolutions would respectfully submit the following report:

1. That we hereby express our appreciation of the courtesy of Supt. Rambo and Public Building Commission in allowing this body the use of the State Capitol for its sessions.

2. That we commend most highly the very effective work of our State High School Inspectors, C. D. Koch and W. S. Hertzog, and we would recommend that the number of such inspectors be increased to at least five to further extend the efficiency of our State High Schools.

3. That we recommend for the rural High Schools of the State a suitable course in Agriculture.

4. That it is the profound sentiment of this Department that the State provide some suitable institution for the professional as well as scholastic training of High School teachers.

5. That the High School Department of the Pennsylvania Educational Association requests the Secondary Department of the National Educational Association to take such action as it deems necessary to determine the constants that High Schools should teach and that Colleges may reasonably exact for admission.

6. That we express our thanks to all persons, generally and particularly, who have been instrumental in making this meeting so great a success.

Mr. Adams presented the report of the Auditing Committee as follows: Receipts from 162 enrollments, $162; expenditures, $127.80; balance to be turned in to treasurer

of the Pennsylvania State Educational Association, $34.20.

It was urged that every member of the Department should support the work of the Codifying Commission, by using his personal influence with legislators. Further remarks on this subject were made by Dr. Lyttle, State Inspectors Koch and Hertzog and Principals Adams, Bock and Davis.

President-elect Wm. L. Smith announced the mid-summer meeting at Bethlehem in conjunction with the State Educational Association and also the next mid-winter meeting at Harrisburg on Tuesday, Wednesday and Thursday, December 28, 29 and 30, 1909. He thanked the Department for the honor of his election and made some pertinent remarks on the duty of each member to arouse enthusiasm for our Department so that every High School teacher will feel that he cannot afford to miss any of its meetings.

Adjourned.

MEMBERS IN ATTENDANCE.

Abbotstown—G. W. Baker.
Allegheny—Wm. L. Smith, principal, Irene E. McDermott, F. T. McClure, Helen Livingston, Paul C. Koenig, Geo. W. Walker, Charles R. Coffin.
Allentown—W. H. S. Miller, principal.
Altoona—G. D. Robb, principal, J. A. Stewart, Paul Krentzpointner, E. Marie Lentz, Walter Bishop, L. D. Talbot, A. M. Longenecker, Annie Campbell, H. B. Stover, Jennie R. Brennecker, Jane Mathews, Mary Clarkson, Mary Turner.
Ashbourne—G. A. Sigman.
Avestis—L. T. Omer, principal.
Bedford—Landis Tanger, principal, Ira M. Long.
Bellefonte—Jonas E. Wagner, principal.
Belleview—W. E. Albig, principal.
Benezette—W. A. Moyer, principal.
Berwick—James Siggman, principal, Edgar W. Rhoades.
Bethlehem—J. B. Geissinger, principal.
Bismarck—R. P. Wolfersberger, principal.
Bloomsburg—L. P. Sterner, principal, O. H. Bakeless.
Canton—J. A. Chestensen, principal.
Carbondale—J. H. Tuckley, principal.
Carlisle—T. L. Brooks, principal, J. W. Potter.
Carnegie—T. J. George, principal.
Catawissa—E. C. Seitz, principal.
Centralia—M. W. Ridge, principal.
Coatesville—W. T. Gordon, W. J. Smith, prin.
Confluence—D. C. Willard, principal.
Defiance—W. Morton.
Donaldson—E. J. Henninger, principal.
Easton—E. C. Brenker.
Ebensburg—M. R. Leffler, principal.
Elizabethtown—D. C. Reber, Jno. F. Kobb, principal.
Emlenton—V. Blaine Lefler, principal.
Emporium—C. E. Plasterer, principal, Cordelia B. Gray.
Erie—Jno. C. Diehl, principal.
Franklin—F. H. Irvin, Maude E. Gram.
Glenville—E. M. Stahl, principal.
Green Park—Katherine Hoback.
Greensburg—B. G. Graham, principal.
Hamburg—J. R. Tallman, principal.
Harrisburg—W. S. Hertzog, C. D. Koch, W. S. Stull, principal, C. B. Fagey, W. H. Jacobs, J. J. Brehm, principal, A. M. Lindsay, Zac. T. Meixell, Lorena G. Evans, M. Katherine McNiff, H. M. Weigel, Wm. Albright, R. W. Pease, George B. Colestock.
Highspire—C. M. Weigel, principal.
Jersey Shore—H. H. Weber, principal.
Johnsonburg—Geo. W. Mitchell.
Johnstown—A. E. Kraybill, principal.
Lancaster—B. W. Fisher, principal, S. Edward Gable.
Landisville—E. R. Ruhl, principal.
Lebanon—Sylvester F. Pelton, Madeline Strickler.
Lewistown—Mary L. Wendt.
Lititz—G. Herman Goetz, principal.
Lykens—H. W. Dodd, principal.
Mann's Choice—J. Kember Grimm, principal.
Mapleton—C. R. Bender, principal.
Marietta—Mary H. Riddle, principal.
Mauch Chunk—W. E. Bevan.
Mechanicsburg—S. C. Beitzell, principal.
McKeesport—J. T. Bower, principal F. L. Homer.
Middletown—H. B. Garver, principal.
Millersburg—J. F. Adams, principal, Chas. A. Miller.
Milroy—Jno. B. Boyer, principal.
Minersville—Wilber M. Yeingst, principal.
Montrose—J. S. Hosterman, principal, Clara Winans, Adelaide Jeffers, Elizabeth Tashjian.
Morrisdale—W. W. Eisenhart, principal.
Mt. Joy—Anna K. Miller.
Narberth—G. Roy Hasler.
Nazareth—W. T. Moyer, principal.
New Castle—G. A. Dickson, principal.
Newtown—A. L. Ely, principal.
Oberlin—Geo. E. Kapp, principal.
Penbrook—O. E. Good, principal.
Philadelphia—Cheesman A. Herrick, principal, Calvin O. Althouse, Charles C. Heyl, John W. Mayer, J. W. Bevan.
Pittsburgh—C. B. Connelly, D. S. Swaney.
Pottstown—Helen Myers.
Pottsville—J. J. Kehler, principal.
Renovo—Geo. A. Mansemoyer, principal.
Richland—J. H. Sprecher, principal.
Royersford—J. L. Eisenberg, principal.
Scranton—A. H. Welles, principal.
Sharon Hill—Anna H. Cuthbert.
Sigfried—H. W. Shimer, principal
Sinking Springs—B. H. Weidman, principal.
South Bethlehem—Owen R. Wilt.
Spring City—Thos. A. Bock, principal.
Steelton—L. E. McGinnes, Mary R. White, Chas. S. Davis, principal, L. B. Nye.
Tamaqua—J. F. Derr, G. W. Guelden, prin.
Tunkhannock—J. T. Kepperlen, principal.
Uniontown—F. W. Wright, principal.
Wellsville—C. M. Bahr, principal.
Wiconisco—F. E. Shambaugh, principal.
Wilkesbarre—J. P. Breidinger, principal, Lena Faulds, Rosa Greenstein, J. R. Hoyt, Heinrich Peterson, Samuel B. Fares, J. P. Lord, Marion Sturdevant, Elizabeth Verlenden, Clarence D. Coughlin, Ida Brenner, E. L. Whatsnecht, A. W. Moss, Jas. G. Stradling.
Wilkinsburg—W. C. Graham, principal.
Williamsport—P. M. Bullard, principal, L. J. Ulmer.
Williams Twp.—T. D. Keboch, principal.
Wrightsville—E. W. Aumiller, principal.
Yeagertown—A. P. Weaver, principal.
York—Chas. B. Pennypacker, principal, Dr. E. T. Jeffers, C. H. Fisher.
Youngsville—Frank S. Heinaman, principal.
Others present—R. B. Teitrick, A. D. Glenn, Charles S. Foos, F. E. Downes, L. E. McGinnes, Charles Lose, R. T. Adams, J. C. Wagner, Daniel Fleisher, H. J. Nickey, H. V. B. Garver, L. S. Shimmel, Chas. W. Scott, Samuel Martin.

EDITORIAL DEPARTMENT.

THE SCHOOL JOURNAL.

LANCASTER, FEBRUARY, 1909.

N. C. SCHAEFFER. - - - - J. P. McCASKEY.

WE are under obligations to Prof. Charles S. Davis, principal of the Steelton high school and secretary of the High School Department, for the report of proceedings and papers in the present issue of *The Journal*. It was an interesting meeting that was held at Harrisburg during the week of the Christmas holidays. The attendance was good and the programme excellent. The papers which are given in full will repay careful reading, especially by those who are trying to work out the High School problem. It is one of the very live problems of the hour, one that will never be solved completely—the moral, mental, physical and manual training of the boys and girls at the critical period in life which lies between childhood and early manhood and womanhood. In its proper solution we need the wisdom of the angels —and should be glad to have their aid.

THE following commissions to Superintendents have recently been issued by the Superintendent of Public Instruction: On January 4, to Edward E. Schermerhorn, Bradford City, vice E. E. Miller, resigned. On January 11, Charles P. Sweeney, Darby Borough. Mr. Sweeney is the first Superintendent elected by Darby Borough. On January 13, Frank S. Jackson, Punxsutawney, vice A. M. Hammers, deceased.

THE *Ohio Educational Monthly* is edited by Dr. O. T. Corson, who is well known to the teachers in many parts of Pennsylvania as one of the most practical instructors at county and city institutes who comes to us from "beyond the border." He is enthusiastic in his interest in the centenary of Abraham Lincoln, and is rousing Ohio to a sense of the unusual opportunity for teaching the impressive lesson of patriotism which the hearty observance of this hundredth birthday affords. His December issue was a Lincoln number, and much of its contents we scattered broadcast over Pennsylvania in our January issue, as matter for the hour. We have been sending hundreds of portraits of Mr. Lincoln into Ohio upon the order of Dr. Corson, and shall be glad to send hundreds more the same good way. And this not so much for the sale of pictures—for we never expect or care to get out of our art-work the money we have put into it and shall continue to put into it—as for the fact that this speaking portrait of Abraham Lincoln in finding its way to school-room walls as a most suitable subject for wall decoration in American schools. Wherever the pictured face of this great good man goes it should mean larger life and more generous aspiration—thus being always an educational influence upon the best lines.

MISS IDA SODERSTROM, of Burtrum, Minnesota, won the first prize of $100 in a recent $500 contest held by the Correspondence Institute of America, Scranton, Pa., for the benefit of its students in illustrating and cartooning. The chairman of the board of judges was Hon. George Howell, superintendent of public schools of the City of Scranton, who has an enviable record as an educator. When Prof. Howell was director of instruction of the Correspondence Institute of America, he availed himself of the assistance of several prominent artists and art teachers to formulate a plan of art instruction which would be particularly valuable to teachers, and that he and his staff were successful is amply shown by the success which school-teachers who have taken this course have achieved. The art of illustrating is one that is of particular value to a teacher in his or her profession, and it also affords an opportunity to do considerable outside work in spare hours.

GENERAL BINGHAM, police commissioner of New York, made some interesting remarks on the difficulty of convicting local malefactors, in his recent annual report. Among other things he said: "Too many lawyers live by showing people how to break the law safely. How else are prize fights and gambling so difficult to suppress? How else do these lawbreakers dare fortify themselves behind iron doors, which are sometimes part of a 'live wire' dangerous electrical circuit? Why else does the liquor dealer cheerfully produce bail, confident that a chemical analysis will be required of his whiskey? How else in Sunday theatres is a dance not a dance, nor a costume not a costume, nor a play not a play? How else is it that a racing bet is not a bet?" According to the report the department consists of 9,918 members. There were 244,822 arrests during the year and over 140,000 convictions. General Bingham

suggests that the police commissioner's salary be increased to $15,000 a year and that it be clearly understood that his term of office be at least nine years. He is a fearless and capable officer of the efficient regular army stamp.

NEW EDUCATION BILL.

THE Education Commission, authorized by the Legislature of 1907, and appointed by Governor Stuart to make report upon the school laws of the State and the propriety of codifying the same, submitted their report to the Governor in the form of a comprehensive bill for enactment into law. This bill was reported out of committee on Wednesday, January 27th, and the joint Senate and House Committee will grant a public hearing on the measure in the hall of the House of Representatives on Tuesday, February 9th.

The bill contains twenty-nine articles. It repeals all general, special and local laws, some two thousand in number, which conflict with its provisions. It establishes a State Board of Education of seven members appointed by the Governor, and provides for many desirable changes in the school system. It creates three classes of school districts: 1. Cities of more than 400,000 people, which includes only Philadelphia and Pittsburg. 2. All cities, boroughs, and townships of over 5,000. 3. All communities having a less number of inhabitants.

The commission recommends that the school directors be elected as nonpartisans, advocating a change of the election laws, so that election of directors is taken out of politics.

Philadelphia and Pittsburg are to have school boards of fifteen members, to be appointed by the courts; second-class districts are to have boards of nine, three to be elected every two years for six-year terms; third-class cities to have boards of five, one to be elected yearly for five years. Present members of boards will serve out their terms. Boards are given wide power and can establish agricultural, manual training, kindergarten schools, playgrounds, lectures, truant and parental schools, install athletics and libraries, as well as having entire control of societies and fraternities.

Uniform methods of taxation are provided, and boards are limited to levying not more than 10 mills on the dollar in first-class districts; 15 in second, and 25 in third-class districts. Occupation tax collection is also provided. Philadelphia and Pittsburg are to elect a school controller every three years. Uniform accounts and placing of deposits at interest are also provided for. Boards of education in cities of the first class also are empowered to borrow for permanent school improvement 7 per cent. of the assessed valuation of the city's realty.

New school buildings must be let by competitive bids, the plans either being furnished for the structures by the State or to be approved by the state authorities when drawn by an architect of the board. Plans of all kinds will be prepared by the State, and every school over two stories high must be fire-proof. All doors must open outward, and the state supervision will extend to sanitation, air space and other health matters.

No text-books can be changed oftener than five years, and the State will compile and furnish price lists of all books suitable for schools, the publishers being bound to furnish them at the list prices. Only a majority vote of directors, on the recommendation of a majority of teachers, or three-fourths of the board, without recommendation, may change books. Similar arrangements as to listing prices of school furniture are made.

County school superintendents will be elected by directors as at present, districts having 5,000 population or more being entitled to have district superintendents. The importance of caring for the inspection of rural schools is emphasized, and counties having from 150 to 300 schools shall be entitled to an assistant superintendent, 300 to 500 two assistants, 500 to 800 three, and for each additional 400 one assistant. These assistants will be named by the superintendents with approval of the executive committees of the school directors' associations of counties. The minimum salary of superintendents is fixed at $1,500, and of assistants at $1,200. School districts may have supervisory principals, or two may join in getting one.

Provisional teachers' certificates will be granted by superintendents for the year, but no teacher may hereafter teach more than five years on a provisional certificate. Professional certificates will be good for two years. Permanent certificates will be granted by boards of examiners under direction of the State Board, and will include all high school studies, being good for life. College graduates may receive without examination state certificates good for three years, and if successful will get life certificates. Special provision is made for kindergarten, music, drawing and other specially trained teachers.

A notable advance is the establishment of two colleges of education, one at the University of Pennsylvania and the other at the University of Pittsburg. Another step is the making of arrangements to incorporate the normal schools in the school system.

The question of compulsory education has been most carefully considered. Children must attend school until they are sixteen years of age as now, except that from fourteen to sixteen years those who can read and write the English language intelligently may be allowed to go to work. Such children must have school certificates, which are issued only by a superintendent or principal of schools, except where there is no superintendent or principal and then by the secretary of the board of school directors. In order to determine the child's age a birth certificate, baptismal certificate or other reliable record of the child's age must be furnished. Two or more districts may unite in employing an attendance or truant officer.

The medical inspectors are charged with the duty of carrying out the vaccination laws, and are to vaccinate without charge all children found unvaccinated, thus relieving the teacher of enforcement of the law. School boards are authorized by a three-fourths vote to permit unvaccinated children to attend school when there is no outbreak in the district or neighborhood, but when it does appear the vaccination laws must be enforced under penalty of removal by the courts.

All business is to be administered uniformly. In Philadelphia all school property is transferred from the city to the school district, subject to such indebtedness as the city has hitherto incurred for school purposes, and the responsibility is placed upon the directors.

On the subject of a state fund the bill proposes to make the 900,000 acres of forest reserve the groundwork of the fund as in other States, notably in the West. The income only from the fund accumulating from the revenue of the forest lands is to be used for school purposes, the idea being to allow the principal to grow until in years to come it will relieve citizens of expense.

The commission which has for the past eighteen months been diligently at work and has prepared this complete code of the school laws of the State, consists of

Dr. Nathan C. Schaeffer, Superintendent of Public Instruction and President of the commission.

Dr. George M. Philips, principal of the State Normal School at West Chester, Pa., secretary of the commission.

Dr. Martin G. Brumbaugh, superintendent of the public schools of Philadelphia.

John S. Rilling, a prominent lawyer, of Erie, Pa.

Prof. James M. Coughlin, superintendent of the schools of Wilkes-Barre, Pa.

David B. Oliver, for many years president of the school board of Allegheny.

William Lauder, of Riddlesburg, Pa., superintendent of the Colonial Iron Works, and long prominent as a school director in Bedford county.

The bill before the Legislature would probably occupy fifty pages of THE SCHOOL JOURNAL. It covers the entire school situation in the State, and makes all the school laws uniform. This, of course, will mean changes that may be objected to in many places. Every locality can find reason for criticism and objection because of innovation upon old ways of doing things. But it is earnestly hoped that school men everywhere in the State will be willing to sink local prejudice for the general good. Let us have at last a body of school laws that shall put Pennsylvania in the very front rank of all the States of the Union!

NOTABLE TRIBUTE TO MR. LINCOLN.

THE interest felt throughout the country in the observance of the hundredth birthday of Abraham Lincoln is quite beyond anything of its kind known in our history. It is growing daily, and February 12, 1909, gives promise of being a day memorable in our national annals. The following note from Prof. George F. Mull, of Franklin and Marshall College, we take pleasure in presenting here in this connection with the fine tribute to Mr. Lincoln which he encloses. He says:

"I have read the Lincoln number of *The Journal* through, and thank you for it. There is inspiration in it. It is a thought-ennobling theme, giving strength to one's faith in the supremacy and the final triumph of the personal forces that proceed out of the abundance of the heart. Some years ago, I do not know how many, I came across Henry Watterson's singularly beautiful and deeply moving tribute to Lincoln, and, although you may be familiar with it, I have copied and send it herewith thinking you may wish to put it into the next number of the *Journal*. It is well worth reprinting."

LINCOLN THE IMMORTAL.

From Cæsar to Bismarck and Gladstone the world has had its soldiers and its statesmen, who rose to eminence and power step by step through a series of arithmetical progression, as it were, each promotion following in regular order, the whole obedient to well established

and well understood laws of cause and effect. These were not what we call "men of destiny." They were men of the time. They were men whose career had a beginning, a middle, and an end, rounding off a life with a history, full, it may be, of interesting and exciting events, but comprehensible and comprehensive, simple, clear, complete.

The inspired men are fewer. Whence their emanation, where and how they got their power, and by what rule they lived, moved and had their being, we cannot see. There is no explication to their lives. They rose from shadow and they went in mist. We see them, feel them, but we know them not. They arrived, God's word upon their lips; they did their office, God's mantle upon them; and they passed away, God's holy light between the world and them, leaving behind a memory half mortal and half myth. From first to last they were distinctly the creations of some special providence, baffling the wit of man to fathom, defeating the machinations of the world, the flesh, and the devil, until their work was done, and passing from the scene as mysteriously as they had come upon it; Luther, to wit; Shakespeare, Burns, even Bonaparte, the archangel of war, havoc, and ruin; not to go back into the dark ages for example of the hand of God stretched out to raise up, to protect, and to cast down.

Tried by this standard, and observed in an historic spirit, where shall we find an illustration more impressive than in Abraham Lincoln, whose life, career, and death might be chanted by a Greek chorus, as at once the prelude and the epilogue of the most imperial theme of modern times?

Born as low as the son of God in a hovel; of what real parentage we know not; reared in penury, squalor, with no gleam of light, nor fair surroundings; a young manhood vexed by weird dreams and visions, bordering at times on madness; without a grace, natural or acquired; singularly awkward, ungainly, even among the uncouth about him; grotesque in his aspects and ways;—it was reserved for this strange being, late in life, without name or fame or preparation, to be snatched from obscurity, raised to supreme command at a supreme moment, and entrusted with the destiny of a nation.

The great leaders of his party were made to stand aside; the most experienced and accomplished public men of the day—men like Seward and Chase and Sumner, statesmen famous and trained, were sent to the rear, while this unknown and fantastic figure was brought by unseen hands to the front and given the reins of power. It is entirely immaterial whether we believe in what he said or did, whether we are for him or against him; that during four years, carrying with them such a pressure of responsibility as the world had never witnessed before, he filled the measure of the vast space allotted him in the actions of mankind and in the eyes of the world, is to say that he was inspired of God, for nowhere else could he have acquired the enormous equipment indispensable to the situation.

Where did Shakespeare get his genius? Where did Mozart get his music? Whose hand smote the lyre of the Scottish plowman and stayed the life of the German priest? God alone, and, as surely as these were raised up by God, inspired of God was Abraham Lincoln, and, a thousand years hence, no story no tragedy, no epic poem will be filled with greater wonder than that which tells of his life and death. If Lincoln was not inspired of God, then were not Luther, or Shakespeare, or Burns. If Lincoln was not inspired of God, then there is no such thing on earth as special providence, or the interposition of Divine Power in the affairs of men.

SIX YEAR COURSE OF STUDY.

IT was the expressed wish of the High School Department that the report of the special committee of the N. E. A. on the Six Year Course of Study should be presented here, in connection with the report of their own proceedings. This committee represents the Department of Secondary Education of the National Education Association. Its members were: Prof. E. E. McCoy, of the Cincinnati high school; Supt. J. H. Van Sickle, Baltimore; Supt. T. H. Nott, Richmond, Indiana; Supt. J. Stanley Brown, Joliet, Illinois; District Supt. O. P. Coniman, Philadelphia; Principals John Denbigh, Morris high school, New York, and Webster Cook, Saginaw, Michigan; and Inspector E. W. Lyttle, Albany, New York, chairman. We are indebted to Dr. Lyttle, through Inspector C. D. Koch, for a copy of this report as follows:

In 1893, the committee of ten representing sub-committees of ninety, chosen for the most part from secondary and higher institutions, presented its report on secondary school studies. So far at least as public high schools were concerned, that report was valuable mainly as establishing ideals, and ideals only for those particular subjects then deemed acceptable for college preparation. No report at all was made on such subjects as music, drawing, commercial, manual and physical training. From that report, we quote one sentence, "Any one who reads these nine reports consecutively will be struck with the fact that all these bodies of experts desire to have the elements of their several subjects taught earlier than they now are." Eleven years later, at the St. Louis Exposition, it became painfully evident that the United States was almost the only considerable civilized nation that prolonged its system of elementary education to eight or nine years. Since 1900 two of the most progressive nations of the world, France and Japan, have revised their national programs and both have virtually limited the term of elementary study to six years. In 1905, at a meeting of the Secondary Section of the N. E. A., held at Asbury Park, it was voted to appoint a standing committee on Six-year Courses of High School Study, of which committee Gilbert B. Morrison, principal of the

William McKinley High School, St. Louis, was chairman. That committee reported at Los Angeles in 1907, and a synopsis of their report is as follows:

The question of dividing the twelve years of the public school course equally between the elementary and the secondary schools presents a twofold aspect—The first is educational or pedagogic; the second is economic. On the pedagogical side, while not unanimous, the trend of competent opinion is strongly toward such a division. The reasons for a six-years' course are:

1. It would give the pupils the advantage of being taught by teachers specially trained for the different branches, the gain coming from the better teaching that results from the adaptation of the teacher to the work for which he is best fitted and for which he has made special preparation.

2. The departmental plan extended downward to the seventh and eighth grades would give the children the advantage of daily contact with several personalities, instead of that all-day association with one teacher which often breeds an abnormal psychic atmosphere.

3. It would give the pupils the advantage of laboratories in which elementary science might be begun earlier than at present.

4. If the six-years' course were in the high school, the manual training shops could be employed to start seventh and eighth grade pupils in this work without sending them off to another school in another part of the city.

5. The modern languages could be begun earlier and continued longer that at present, making it possible to learn the languages by natural and direct methods.

6. It would mitigate the present abruptness of the transition from the elementary schools, and check the loss of pupils at this critical period. The object of a six-year course is not to save time but to secure better adaptation and more natural growth, fitting the pupils better both for the high school and for college.

7. It would cause more pupils to enter the ninth grade as it would remove what is now regarded by parents as a natural stopping place.

8. The six-year course would make the system more self-consistent as shown by experience in the schools of Germany and England.

9. It would give the pupil more time to prepare for college.

10. It would do much toward solving the problem of the outward extension of the course of study and the crowded curriculum.

The economic aspect is not so favorable inasmuch as high schools are more expensive than elementary schools. But the difference in cost would not be great. The economic objection will yield when the change is generally believed to be a necessity. The tax payers cheerfully provide the necessities at any cost.

Signed: C. B. Morrison, Chairman, Wilson Farrand, Edward Rynaerson, J. H. Francis, A. B. Graham, Committee.

As regards the last paragraph of that synopsis, it is well to note that within the present year, Mr. J. Edward Swanstrom, for some time President of the Board of Education, in Brooklyn, and later a member of the Board of Education of greater New York, published in the *Brooklyn Eagle* an argument for the adoption of the six-year course of elementary study to be followed by three years of work in the lower high schools plus three years in the upper grade of specialized high schools. In that article Mr. Swanstrom argues forcibly that his plan would not only increase the educational efficiency of the schools but would be highly economical for the City of Greater New York. At least ten cities in the United States, for several years, have employed the proposed six and six-year division and believe it to be more economical. Working along the lines indicated by growing educational opinion, your present committee has decided as follows:

1. To outline what may reasonably be required of pupils at the end of the sixth school year as essential to a preparation for high school work.

2. To suggest for the seventh and eighth grades a minimum practicable course of study based on the experience and practice of the civilized world, to consume perhaps 70 per cent. of the pupils' time and to advise for the other 30 per cent. those electives which the best pedagogic thought and practice approve.

3. To recommend further careful investigation in regard to fixing points for vocational differentiation in accordance with local conditions and individual characteristics.

4. To recommend that promotions be by units of work accomplished rather than by years, thereby permitting the shortening or the lengthening of the time in which the course, nominally of six years, may be completed by pupils of varying ability.

First: What should be expected of pupils at the end of the sixth school year—age 12 to 13?

Reading: Pupils should be able to get the thought in reading, and express it in simple narrative, prose and poetry, such as Robinson Crusoe and Paul Revere's Ride. Spelling: They should be able to spell correctly 90 per cent. of the words commonly used in their home and school vocabulary. Writing: They should be able to write legibly and with fair rapidity. Composition: In composition they should be able (1) to compose and write a business or social letter in conventional form, on a simple assigned topic that properly comes within the experience of children of their age; (2) to compose and write short descriptions and narratives on simple themes appealing to the natural interests of children and falling within their experience. Arithmetic: In arithmetic (1) they should be thoroughly familiar with number combinations (1–100) in addition, subtraction, multiplication and division; (2) they should be able to solve easy two-step problems in arithmetic involving fundamental operations; (3) they should be able to read and write, readily, integers and decimals to six places; (4) they should be able to solve easy one-step problems involving common and decimal fractions; (5) they should have some knowledge of percentage and its simplest applications to profit and loss and to simple interest. In geography they should have a general knowledge of (1) the oceans and con-

tinents, their relative size and location; (2) the principal countries, their people and products, with a somewhat detailed study of the United States and its possessions; (3) of the great river and mountain systems, especially those of North America, South America, Europe and Asia; (4) of 50 to 100 of the principal cities of the world, their location, peculiar characteristics, commercial, industrial and artistic features of special interest; (5) of the great trade routes. In other subjects, with the aim of starting as many lines of interest as possible, pupils during the first six years should have instruction in drawing, music, morals, elementary science or nature study, history, literature, calisthenics, and constructive and illustrative hand-work; but instruction in these subjects should be directed with the aim of developing habits of observation, power to think and power to do, rather than with the aim of imparting information of definite amount.

The required subjects for pupils of the seventh and eighth grades should be: English, including spelling, literature, composition, and grammar, from six to eight periods of thirty minutes each, weekly; arithmetic, with concrete geometry, and algebra, five periods weekly; geography and history, five to seven periods; music, two periods; drawing, two periods; physical training (required of those whose physical condition needs it as corrective, optional for others), two periods. The elective branches should be: manual training, three periods; science, three periods; foreign languages, for each one given, three periods. It will be seen that the above list presents simply suggestions from which varying courses of study may be worked out, and correlated with courses now given in our high schools.

Your committee makes no claim for infallibility nor for superior insight or foresight. It presents these suggestions as the result of a year's faithful study of the problems before us all. It invites the fullest and freest discussion on the part of all educational bodies during the coming year that we may all gain more light. It respectfully requests that the work of the committee be continued.

ITEMS FROM REPORTS.

BEAVER.—Supt. Locke: At the directors' meeting, during institute week, I suggested the plan of districting the county and holding institutes in each district, in which the teachers shall have charge under my supervision. I also asked their support in giving the county a course of study. They endorsed both propositions.

BEDFORD.—Supt. Barkman: The attendance at our annual institute was 330 out of a total of 332 teachers. The instructors were Supt. L. E. McGinnes, and Drs. C. H. Gardinier, J. G. Becht, A. E. Winship and Sarah E. Sprague. At the directors' convention Dr. Becht gave two interesting talks. His lecture, "Lend a Hand" is very inspiring. Col. D. F. Fortney is an able talker, with his heart and soul in the welfare of the schools and school children. Mr. Wm. Lander ably explained, the present system of taxation, pointing out the unfairness and many disadvantages of the system and advocating the transfer of the taxing power to the State and the paying of the teachers by the State.

BERKS.—Supt. Rapp: The annual directors' convention was attended by 250. Inspiring addresses were made by Messrs. R. M. McNeal and Reed B. Teitrick.

CENTER.—Supt. Etters: At our county institute the instructors were Drs. Henry R. Sanford and R. M. Roark, and Prof. Harlan E. Hall. This was Prof. Hall's first appearance before a Pennsylvania institute. He is from Mansfield, Ohio, and an excellent man for good all-round institute work.

CLEARFIELD.—Supt. Tobias: Our annual institute was a success. The instructors were Hon. Henry Houck, Drs. S. B. Fess, Rob't Armstrong, and Maurice P. Fickes. Prof. Yoder conducted the music. Their work was very satisfactory. The evenings were occupied by Dr. L. B. Wickersham, Capt. Richard P. Hobson, The Dunbars, and Gov. J. J. Frank Hanley. There were 476 teachers, and a goodly number of directors present.

CLARION.—Supt. Heeter: The county institute was held with an enrollment of 255 teachers on the first day. Our instructors were Prof. C. E. Rugh, Drs. Ossian Lang, P. W. A. Beer, J. Geo. Becht, and Willis K. Crosby. The directors' convention met the same week with an attendance of 101, probably the best attended meeting in the history of the association. An interesting and profitable meeting of high school principals and teachers was also held during the week.

CLINTON.—Supt. McCloskey: Our teachers were punctual in attendance at the county institute and closely attentive to the instruction given. Drs. C. T. McFarlane, R. B. Teitrick, Edwin Sparks, and Miss Barber were pleasing and helpful in the service rendered. The evening entertainments were of a superior character.

CUMBERLAND.—Supt. Green: The institute was the great event of the last month. The instructors were Drs. O. T. Corson, R. B. Teitrick, C. H. Gardinier and C. C. Ellis, and Supt. J. C. Wagner. Addresses were delivered by Hon. W. F. Sadler, Prof. J. C. Nesbit, Dr. A. S. Martin, and Dr. G. Edward Reed. The evening entertainments were given by Hon. J. Wright Giddings, The Honolulu Students, Hon. J. Adam Bede, and the Lotus Glee Club. Prof. O. H. Yetter directed the music. The work of the instructors was highly commendable and we see in the schools unmistakable evidences of its practical value.

ERIE.—Supt. Russell: The third conference of the Science and Mathematics Teachers of Northwestern Pennsylvania was held at Meadville Dec. 5. The attendance was larger than at any previous meeting and great enthusiasm prevailed. Allegheny College graciously opened her physical lecture room for them and, with the co-operation of the Meadville city teachers, served an elaborate dinner at 1 o'clock in the college dining hall. This was followed with another dinner at 6 o'clock in the Unitarian Parish House by the Franklin teachers. Dr.

N. I. Taylor, of Meadville, read a comprehensive and practical paper upon the subject of Hygiene which was followed by a spirited general discussion in which tuberculosis and vaccination proved to be the storm centers. It was voted to hold a spring meeting at a place and upon a date to be selected by the executive committee. This organization gives promise of good work ahead.

FAYETTE.—Supt. Lewellyn: At the annual institute 688 teachers were present, it was a great meeting. Dr. N. C. Schaeffer represented the Department of Public Instruction. The School Directors' Association held its annual meeting the same week. Mr. Biddle Hornbeck, of Dunbar township, was elected President of the Association.

FOREST.—Supt. Morrison: An enthusiastic local institute was held in Barnett township. During the month I attended with much interest the institutes of Jefferson and Clarion counties.

FULTON.—Supt. Lamberson: Our county institute was very satisfactory. Drs. Gardinier and Deatrick, and Prof. F. F. Holsopple gave us as much practical instruction as any institute in our county ever received. Only one of our teachers was absent. Our percentage of attendance in the rural schools is much above that of last year.

HUNTINGDON.—Supt. Dell: Local institutes and educational meetings were held in Broad Top City, Hopewell, Jackson, Tell (two), Springfield and Henderson. A patriotic meeting in Dublin assumed an educational character. Excepting the Hopewell meeting crowded houses were the rule. Good work is being done by the teachers. At Saltillo a lecture by Dr. Ellis was heard with enthusiasm by a large audience.

JEFFERSON.—Supt. Jones: At the county institute the attendance and interest were gratifying. The teachers pronounced the institute very helpful; and the general public also expressed approval of the instruction and entertainment.

HUNTINGDON.—Supt. Dell: Coalmont Council J. O. U. A. M. gave a fine flag to the Carbon township high school. The exercises held in connection with the presentation were impressive. Several good addresses were made.

JUNIATA.—Supt. Deen: The county institute was a success, our instructors being Dr. H. R. Pattengill, Dr. C. C. Ellis, Prof. F. B. Willis, and Hon. R. M. McNeal.

LEHIGH.—Supt. Rupp: On the 3d of December we held our annual school directors' convention, and had the largest meeting we ever held, 112 directors being in attendance. Dr. A. C. Rothermel made an address in the forenoon and Dr. N. C. Schaeffer in the afternoon. Both of these talks were well adapted to the occasion, and much good will come of the convention. As far as I have visited our schools I found the attendance regular, and the work done by the teachers encouraging.

LYCOMING.—Supt. Milnor: Local institutes were held in Mahoning and Union districts, both well attended. The Mahoning teachers had an afternoon and evening session. The parents took an active interest in the proceedings.

MCKEAN.—Supt. Bayle: The best indication of the progress being made in school work in this county is the excellent series of local institutes that includes every district. This educational factor has been at a low ebb for several years, but the interest of both teachers and parents this year is very marked.

MIFFLIN.—Supt. Wills: Our county institute had an attendance of 159 teachers. Able and practical instruction was given by Drs. J. C. Willis, C. H. Gardinier, and N. C. Schaeffer and Profs. F. F. Holsopple and J. W. Yoder. A reception on Monday evening by the Mifflin County Teachers' Association was a feature of the institute.

NORTHAMPTON.—Supt. Grim: The teachers of Bushkill and Lehigh townships hold monthly meetings for the discussion of assigned subjects. They have also decided to visit other schools to observe the work of the more experienced and successful teachers, and then report the results so far as it pertains to the subject under discussion. Several schools have had successful evening entertainments, with the practical result that teachers and parents come to know one another. The school library has been increased, old musical instruments have been repaired, and an era of good feeling has been started.

NORTHUMBERLAND.—Supt. Fetzer: The county institute was a success in every way. Instructors were Dr. F. H. Green, Supts. Peirce, Ellenberger and Wilson, and Mrs. Cora D. Graham. This year Supt. S. C. Yocum, of Coal township, and his corps of teachers, 73 strong, joined the institute—the first time in nine years. The enrollment of teachers was 377, the largest in the history of the institute.

PIKE.—Supt. Westbrook: Our directors' association convened at Milford, December 2d and 3d. Several timely topics were discussed, and the directors listened with pleasure and profit to two able addresses by Dr. E. L. Kemp. Resolutions were adopted recommending to the consideration of the Commission on Revision of the School Law the adoption of a uniform set of text-books and a term of at least eight months. Forty-one directors were in attendance. Successful local institutes were held at Greentown, Milford and Dingman's Ferry.

POTTER.—Supt. Welfling: Three enthusiastic and helpful local institutes were held this month, one at Germania, with forty-two teachers present, one at Galeton, and one at Genesee. At Germania the subject of township high schools was discussed. Five of the directors were present. Abbott township is almost entirely inhabited by Germans. It has the best equipped and finest rural school buildings in the county and now the people are anxious for the privileges of a township high school.

SNYDER.—Supt. Stetler: The annual institute was attended by every teacher in the county and by sixty school directors. The teachers showed more than ordinary interest, and were uniformly prompt and attentive. Our instructors were Drs. F. Green, E. L. Kemp, R. M. McNeal, J. I. Woodruff, and Prof. O. C. Gartner. Before adjournment a county teachers' association was formed.

TIOGA.—Supt. Longstreet: Our annual institute was held at Wellsboro. The instructors were Drs. C. C. Ellis, Byron King, O. T. MacFarlane and Andrew T. Smith, Prof. T. L. Gibson, and Supt. Charles Lose. We never had a more popular gathering nor better interest. The attendance at the directors' meeting was the largest in the history of the association. Addresses were made by Supt. Lose, D. F. Fortney, Esq., Prof. O. C. Gartner, F. M. Shiffer, J. W. Jackson, and the Co. Superintendent. E. B. Dorsett, lecturer for the State Grange, addressed the teachers and directors in joint session.

UNION.—Supt. Spigelmyer: A plesant feature of this month's work was the visit to the schools of Buffalo township accompanied by the full board of directors. There are ten schools, including two of grammar grade, and the work done is above the average. This township as well as White Deer should have a township high school. I have now completed my first round of visits, and with few exceptions find the work moving along very nicely. We probably have 200 children out of school on acount of the vaccination law. Something should be done at this session of the legislature to remedy this matter. Our institute was a grand success, excepting the evening features which were poorly attended. The interest and attendance of the teachers could not have been better. We had strong and capable instructors in Drs. T. S. Lowden, C. H. Gardinier and J. I. Woodruff, Prof E. M. Baxter and Miss Emma Barber.

WASHINGTON.—Supt. Crumrine: The county institute was distinguished by good attendance and unflagging interest. Our instructors were Dr. J. D. Moffat, T. S. Lowden, Frank P. Mills, P. P. Claxton, and Mrs. Mary G. Noss. Prof. O. E. Excell directed the music. For the evenings we had The Mendelssohn Trio, Dr. Guy Carleton Lee, Gov. E. W. Hoch, Dr. Russell Conwell, and the Ladies' Commonwealth Orchestra. The directors' convention was our star session. David Fortney, Esq., gave a very interesting and instructive address. The large auditorium was filled at every session. The teachers who took an active part in the institute did their work well.

ALLIANCE.—Supt. Landis: Sentiment in favor of a modern high school building is growing. The board of directors have provided each building with a fire plug and hose. The New International Encylopedia has been placed in our high school.

ALTOONA.—Supt. Baish: On December 18 a fire occurred in the high school. It started in the battery room and was confined chiefly to the stage of the auditorium and the toilet rooms. The total loss was $9,595. There were about 700 persons in the building at the time. By the use of the fire drill the building was emptied in one minute and forty seconds. No one was injured, and the building was ready for use again on January 4th.

COATESVILLE.—Supt. Gordon: The school month which ended December 1st was one of successful work along all lines. The attendance was excellent, though we had mumps, whooping-cough and diphtheria in the town. Perhaps the most important educational event was the opening of a new school for colored children in the Merchant Street building. This school has now nearly fifty pupils enrolled. As matters stand, we are able to instruct our colored children in separate schools through the first six grades.

OLD FORGE.—Supt. Coyne: All our buildings are heated by steam. Our teachers unanimously voted to join the State Teachers' Association, and we expect to have a large delegation at the Bethlehem meeting.

LOCK HAVEN.—Supt. Ling: At the recent county institute Supt. McCloskey had the hearty co-operation and interest of the entire local school body—directors, teachers, and patrons, and the results were mutually beneficial. Our preference is for a sectional institute, in which the special needs of all classes of teachers can be met; but we have attended no better "mixed" institute than the ones conducted by Supt. McCloskey.

SOUTH SHARON.—Supt. Hostetter: The new high school building, costing $80,000, was dedicated December 18th, with appropriate exercises. At 1 p. m. all the children assembled in the auditorium of the new building, after a short parade in which each pupil carried an American flag. A programme for and by the children was greatly enjoyed. The dedication proper took place in the evening. County Superintendent Foltz made a good address. Judge Williams, of Mercer, congratulated the School Board upon their noble building, and told how, in boyhood, he had roved over the land that is now South Sharon. Judge Miller emphasized the importance of manual training. Mr. A. R. Maxwell, Secretary of the board, made report upon the building, its furnishing, equipment and cost, its directors' room, offices for superintendent and principal, rest room for teachers, and auditorium with nearly 700 opera chairs. There was music by the Firemen's Band, the Eureka Octette, the Thomas Quartette, and pupils of the schools. The building is of buff brick, two stories, finished in oak throughout, with twelve classrooms. The auditorium will seat 800 people. Beneath this will be the gymnasium. The chemical laboratory will be in the basement. The main corridors are wide and the full length of the building. These and the rooms are fitted up with gas and electric chandeliers.

TYRONE.—Supt. Fleck: Although Tyrone is a separate district it joins with the county in the annual institute, which was exceptionally good this year. We had an able corps of instructors, Drs. M. G. Brumbaugh, O. T. Corson, and C. C. Ellis, Prof. T. L. Gibson had charge of the music. The teachers were unanimous in their praise of the work done.

WEST CHESTER.—Supt. Jones: The Gay Street building was entirely destroyed by fire on the morning of Nov. 18. It was a twelve-room building erected in 1894 at a cost of $25,000; it was insured for $20,000. The high school gymnasium floor was at once partitioned into school rooms and new furniture ordered. Some of the pupils were in schools the following Monday morning, and none lost more than eight days.